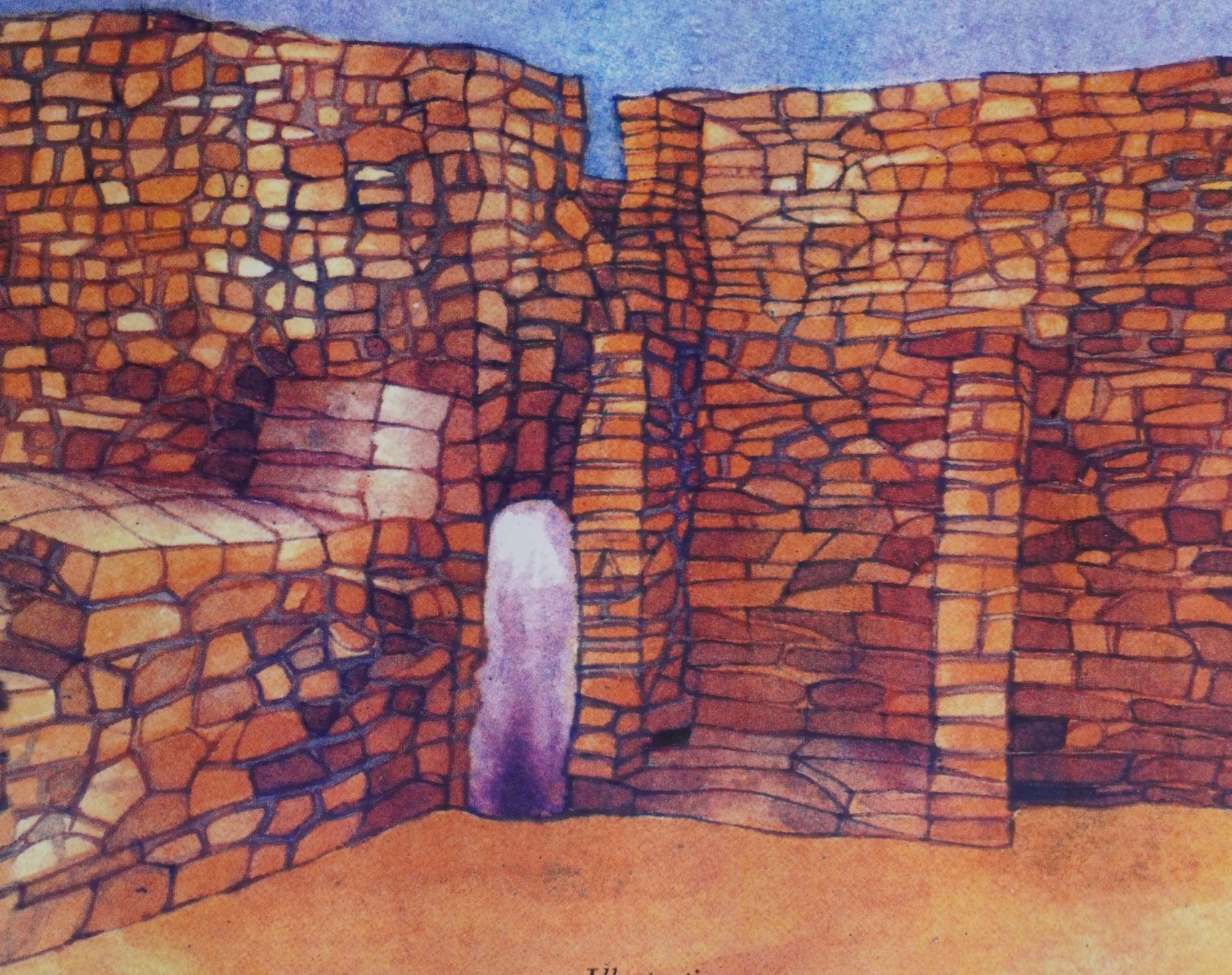
Mysteries of the Past Archaeological Sites in India

Upinder Singh



Illustrations

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UPINDER SINGH

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T. GAUTAM TRIVEDI

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For Raghav, Madhav, Rohan and all other Children

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BEFORE YOU START

Our country is full of hundreds of archaeological sites of different kinds and of different times. An archaeological site is a place where there are remains of the past – things like ruins of old buildings, bones, pottery and tools. Some of these things may be found on the surface of the ground, but many more lie buried underground and have to be excavated or dug out by archaeologists. If you visit an archaeological site, you may see the ruins of a house where a family lived hundreds of years ago. You might find a piece of old pottery made long ago by a potter. You might turn it over in your hands, feel its texture and admire its colours. Archaeologists have a special word that they use for things made by human beings – the word is "artefact" (also spelt as "artifact").

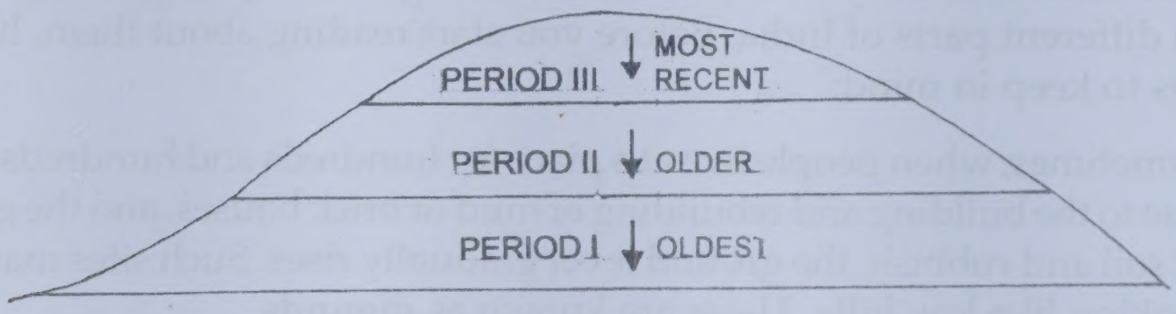
If you can't visit archaeological sites, you can at least read about them. And whether you visit a site or read about it, you will still have to use your imagination. You can use the evidence and the clues found at a site and try to imagine what peoples' lives must have been like in this place hundreds, maybe thousands, of years ago.

This book will tell you about some exciting and important archaeological sites in different parts of India. Before you start reading about them, here are a few tips to keep in mind:

1. Sometimes, when people live at a place for hundreds and hundreds of years, due to the building and rebuilding of mud or brick houses, and the gathering of soil and rubbish, the ground level gradually rises. Such sites may end up looking like low hills. These are known as **mounds**.
2. Archaeologists may just explore a site and collect and study the things they see on the surface of the ground. This is known as an archaeological **exploration**. Or they might dig into the ground to find out more. This is known as an **excavation**. Excavations are carefully planned and organized events.
3. There are two kinds of excavations. When archaeologists take up a small area and concentrate on digging down to the lowest levels, this is known as a **vertical** excavation. When they dig over a large surface area, it is called a **horizontal** excavation.
4. Archaeologists are not only interested in finding big things like palaces, tombs and fabulous treasures. They are just as interested in simple, **ordinary things** like tools and pieces of pottery. This is because ordinary things can

tell us a lot about the every-day life of ordinary people. **Pottery** is particularly important. This is not only because it was used regularly in the every-day life of people, but also because we know that certain kinds of pottery were made in certain periods of time. So the pottery found at a site can give us information about how old the site is.

5. Archaeologists are not interested in simply digging out whatever there is at a site in a jumbled up way. They keep track of exactly what is found at each level of the excavation. **Layers** or **levels** are very important in archaeology.
6. Archaeologists divide up sites where people lived for hundreds of years into different layers or levels that belong to different **periods** (Period I, Period II, Period III, etc.). The important thing to remember is that as you go from the surface of the ground to the deeper and deeper levels, you are going back in time. What this means is that the things that are found near the surface are newer and more recent, and the things that are found at the deepest levels belong to older times:



Think of an archaeological site by imagining a cake with many layers, each with a different flavour and colour. What you have to keep in mind is that the top-most layer is the most recent, the lower layers are older, and the bottom-most layer is the oldest. Or imagine a lift in a multi-storeyed building. Remember that the top floor stands for the most recent times and as you go down the lift to lower floors you are going back in time, to older and older periods.

7. Unlike the events of history, the different periods at an archaeological site cannot be dated exactly. There are several scientific techniques that are used to date things found in excavations. These include the radiocarbon (also known as Carbon-14) and thermoluminiscence methods:

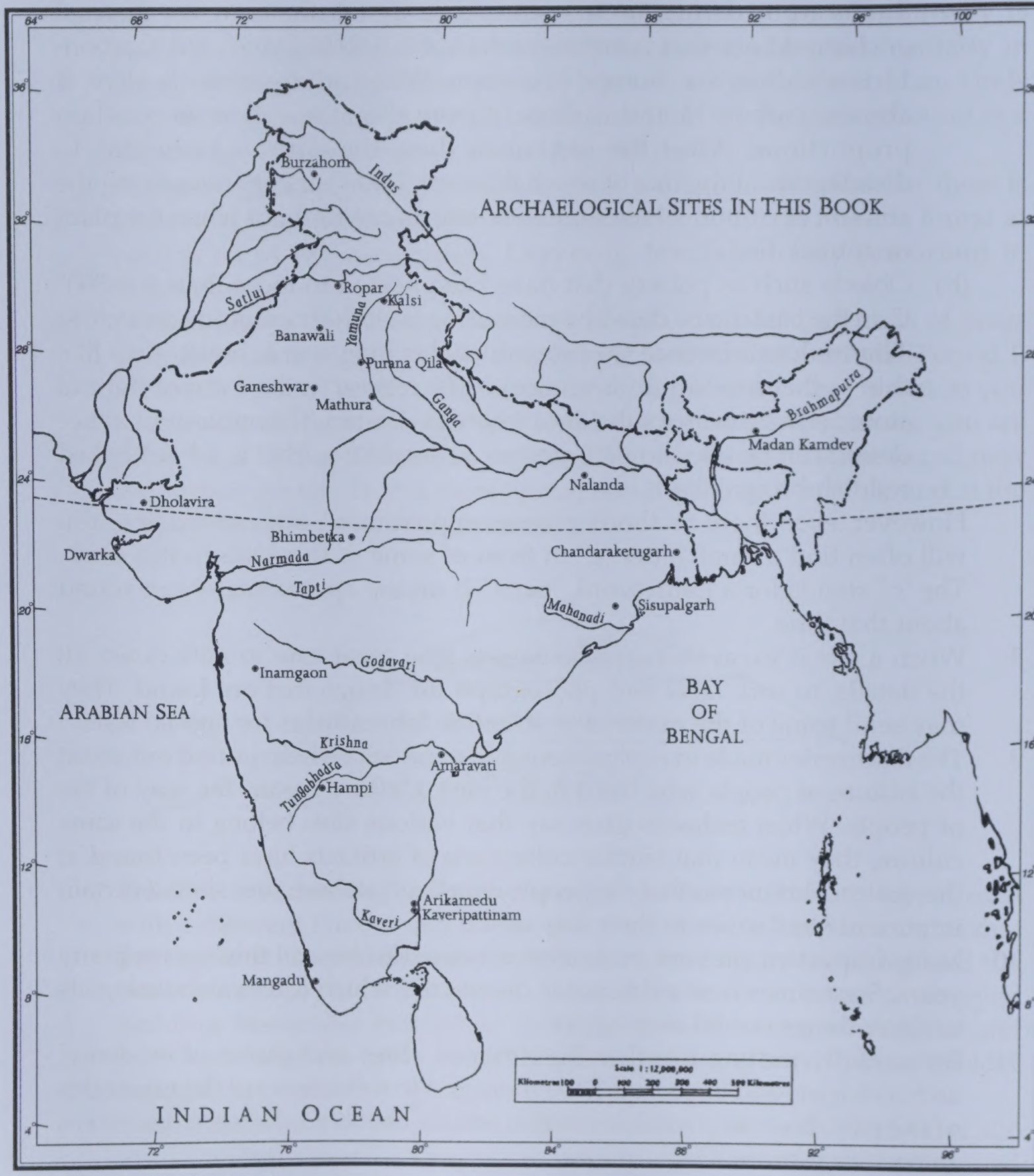
(a) **Radiocarbon dating** can be used to date organic material like charcoal or charred bone that is not more than about 50,000 years old. Carbon-14 is a radioactive isotope of carbon. While an organism is alive, it absorbs carbon-14 and carbon-12 from the atmosphere in constant proportions. After the organism dies, the carbon-14 begins to disintegrate at the rate of one-half every 5730 years. By measuring the amount of carbon-14 remaining, scientists can find out when the plant or animal died.

(b) Objects such as pottery that have been heated to more than 400-500° C. in the past can be dated by measuring their thermoluminiscent glow. **Thermoluminiscence** (to pronounce this long word, break it up like this — ther-mo-lu-min-is-scence) is the release in the form of light of stored energy from a substance when it is heated. Thermoluminiscence dating can be used to date pottery or terracotta (this is a hard-baked reddish-brown clay).

However, even these methods give us approximate, not exact dates. You will often find a small letter **'c.'** in front of some of the dates in this book. The 'c.' stands for a Latin word, 'circa.' It means approximately, or round about that time.

8. When a site is excavated, archaeologists take great care to note down all the details, to sort, label and photograph the things that are found. They may send some of the material to scientific **laboratories** for special tests.
9. The discoveries made in explorations and excavations help us find out about the culture of people who lived in the past. **Culture** means the way of life of people. When archaeologists say that various sites belong to the same culture, they mean that similar collections of artifacts have been found at these sites. This means that the people who lived at these sites shared certain important similarities in their way of life.
10. Many important sites are excavated not once but several times, over many years. Sometimes **new evidence** is discovered which forces archaeologists to think things out all over again!
11. By carefully putting together the different clues and pieces of evidence, archaeologists and historians have managed to solve some of the **mysteries of the past**. But many more mysteries remain unsolved. This is what makes archaeology so exciting.

That's enough for now. Now you are all set to read this book!



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The territorial waters of India extend into the sea to a distance of twelve nautical miles measured from the appropriate base line.
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BHIMBETKA

The first artists were stone age people whose names we do not know. They couldn't sign their names under their paintings, because they lived in a time when people didn't know how to write. They made their paintings not on paper but on rocks. Prehistoric rock paintings have been found in many parts of the world. There are over 150 rock painting sites in India itself. Many of them are in central India. The largest and most spectacular one is located in the Vindhyan hills at Bhimbetka in Madhya Pradesh.

Bhimbetka was a great place to live for stone age people. The overhanging rock ledges on the hillsides gave them shelter. The thick forest was full of edible plants and fruits that they could collect and many different kinds of animals that they could hunt. Water was available all year round in the streams and creeks.

Thousands of stone tools belonging different phases of the stone age have been found at Bhimbetka. The palaeolithic age was the first part of the stone age, when people got their food through hunting and gathering. The palaeolithic people who lived in the rock shelters of Bhimbetka sometimes paved the floors with stone boulders and slabs. They buried their dead under the floors along with tools made of stone and bone. This shows that they had some sort of belief in life after death. Although some kinds of rock for making stone tools were available in the Bhimbetka hills, people sometimes traveled long distances to get certain special kinds of stones.

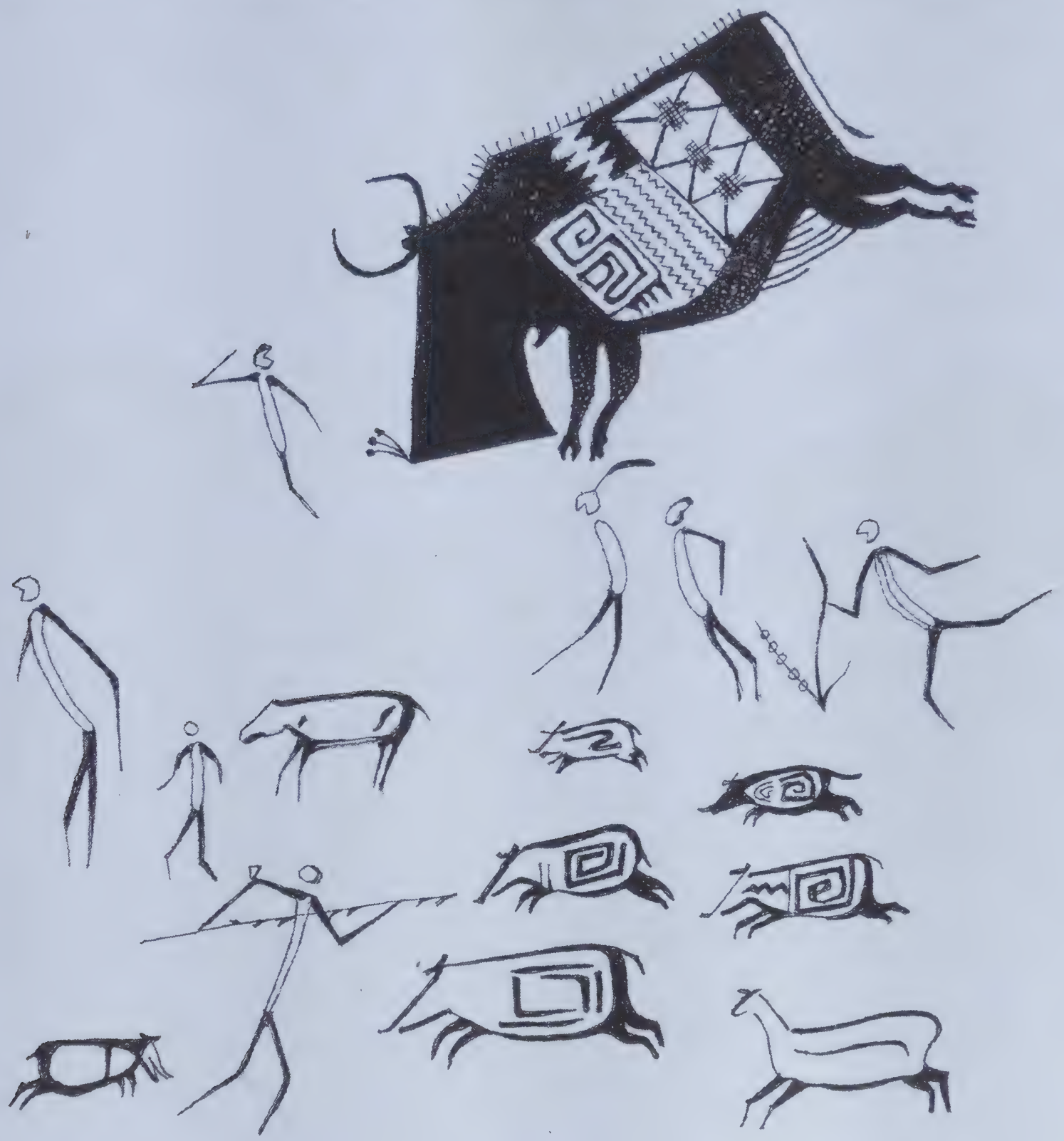
Bhimbetka is like a gigantic open air art gallery where you can see pictures

Bhimbetka: Doesn't this masked dancer look powerful and awe-inspiring? Look at his head-dress, the decorations on his arms, and the staff in his hand.

made by people over thousands of years. Out of the 642 rock shelters at Bhimbetka, nearly 400 have paintings. The oldest and largest number of paintings belong to the mesolithic phase of the stone age. They may be about 10,000 years old. During the mesolithic phase, people were still basically hunters and food gatherers. But they had learnt to make and use tiny stone tools known as microliths. They attached these onto bone or wooden handles to make knives, arrows, spears and other kinds of weapons and tools.

The stone age artists made their paintings on the surfaces, walls and ceilings of the rock shelters. Some of the paintings were made in shelters where people lived. But some of the biggest and best paintings were made in places which do

not seem to have been living spaces at all. Maybe these were places where some sort of secret magic or religious rituals were performed. Some of the most grand paintings are very high up on rock surfaces or close to the ceilings of rock shelters. The artists and their helpers could only have climbed to these spots with the help of scaffolding. Such paintings must have had a special importance



Bhimbetka: In this hunting scene, look at the designs on the body of the large boar and the 'x-ray' style used for the pigs lower down. The humans near the boar look so small and insignificant.

Bhimbetka: This humped bull has been painted in a stylish, rather abstract way.

for the people. But then, many others may have been made by people simply because they liked to paint or because they wanted to make their homes more colourful and beautiful, or because they wanted to tell a story in pictures. Like us, stone age people also had feelings, thoughts, worries, fears, likes and dislikes. And they expressed these things in their paintings.

What did the stone age people use for brushes and paints? They could have made the handles of brushes out of twigs or wood. For the brush itself, they could have used silk cotton, animal fur or squirrel tail. The mesolithic artists of Bhimbetka knew as many as 21 colours, including various shades of white, yellow, orange, red, purple, brown, green and black. Their favourite colours were white and light red. The paints were made by grinding various rocks and minerals. They got red from haematite (iron oxide, known as 'geru' in India). The green came from a green variety of a stone called chalcedony. White might have been made out of limestone. The rock or mineral was first ground into a powder. This may then have been mixed with water and also with some thick or sticky substance such as animal fat or gum or resin from trees.

The mesolithic artists loved to paint animals. They painted deer, bears, elephants, leopards, tigers, panthers, rhinoceroses, antelopes, fish, frogs, lizards, squirrels and birds. It is interesting that they did not make any paintings of snakes. Maybe this was because they were very afraid of them. In some pictures, animals are chasing men. In others they are being chased and hunted by men. The paintings may look simple, but if you look at them carefully, you will see

that the artists were able to convey movement and feeling very skillfully.

The hunting scenes show people hunting in groups, armed with sticks, spears, bows and arrows and slings. They also used traps and snares to catch animals. The hunters wear simple clothes and ornaments. They are sometimes shown wearing masks and head-dresses crowned with feathers, horns or antlers. The animals are painted in a very realistic way. They usually look huge and powerful compared to the humans who look small and insignificant. Sometimes, animals were painted in the 'x-ray style,' showing their inner organs. This gives us the feeling that we are looking into the animal, just as an x-ray gives us a picture of the skeleton inside our body. Some of the animal pictures, especially in the hunting scenes, show a fear of animals, but many others show a feeling of tenderness and love for them. This feeling comes out in scenes of grazing

The Bhimbetka rock shelters.

buffaloes, hopping rabbits, and monkeys jumping about, and also in scenes that show animals like panthers, tigers and deer with their babies.

While the artists made the pictures of animals in great detail, they usually painted men as match-stick figures, and women with only a slightly fuller body. They painted young and old people. They painted children running, jumping and playing. They painted scenes of people dancing gracefully in groups, sometimes to the beat of a drummer. They painted scenes of people gathering fruit or honey from trees, and of women grinding and preparing food. Some of the scenes of men, women and children seem to show a sort of family life. Certain men, with masks or designs on their body, often carrying baskets on their back, look like chiefs. There are others, wearing masks and animal head-dresses, who seem to have been priests. In many of the rock-shelters we see hand-prints, fist-prints, and dots made by finger tips. Even today, in many parts of our country, people make these kinds of prints on the walls of their houses on special occasions.

One of the curious things about the paintings at many rock art sites is that the artists often painted new paintings on top of the older ones. At Bhimbetka, in some places there are as many as 20 layers of paintings, one on top of the other. Why did the artists paint in the same spot when so much empty space was available? We don't know for sure, but maybe this was because some of the paintings and places were considered sacred or special. The hunting scenes could have been connected with some sort of ritual that people performed in the hope that it would lead to a successful hunt.

How do we know that the earliest paintings at Bhimbetka were made by stone age people and were not made more recently?

Although there are many tribal people living in the area today, they say that these paintings were not made by them or their ancestors. We do not see recent inventions like bicycles, cars, planes or guns in the paintings. The thousands of stone tools found at Bhimbetka clearly show that stone age humans lived here. The subjects of the paintings also fit in well with the life they led. Also, some of the paintings are so faded, and the surface on which they are made is so worn out and damaged that it is clear that they were made long ago and not recently.

The later paintings at Bhimbetka have different themes and styles. Instead of men hunting in groups, we see men hunting alone. There are men on horses

and chariots, tamed animals and processions of animals. The still later paintings show soldiers marching or facing each other in battle, and royal processions. Animals become much less important. — These must have been the things that the people who lived in the rock shelters of Bhimbetka either experienced themselves or saw happening in the plains below the hills. Just as the paintings made by stone age people tell us about the way of life of stone age humans, these later paintings show us how much life had changed since those early times.

BURZAHOM

Burzahom was the first neolithic site to be discovered in Kashmir. The neolithic was a part of the stone age when people started using a new technique of making stone tools by grinding and polishing them till they had a smooth surface. They started relying more and more on getting their food by growing crops and domesticating animals. They also began to make pottery. All these changes may seem very ordinary to you, but they were actually extraordinary because they led to big changes in the life of people. The neolithic settlement at Burzahom is dated to about 3000 B.C.. But people continued to live in this place for many centuries after the stone age as well.

Burzahom means 'place of birch' in Kashmiri. This is because there are a lot of birch trees in the area. Pieces of burnt birch found in the excavations showed that there were birch trees here in the stone age as well. Burzahom is located on the bed of a dried-up lake. There are many such dried-up lakes in Kashmir, and the Kashmiris call them 'karewas.' The forests and lakes around Burzahom meant there was a good food and water supply. This explains why people chose to live here for so many centuries.

There is something unusual about the earliest neolithic homes at Burzahom. They were below ground level. The people dug pits into the ground with the help of stone tools. They plastered the sides of the pits with mud. The pits were usually round or oval (a few were rectangular or squarish). They were narrow at the top and wide at the base. Archaeologists found holes all around the pits. These must have been the places where people fixed wooden poles to give

Burzahom: In the center is a red pot with designs painted on it in black. Around it are different kinds of stone tools found at the site.

support to a roof made out of branches of trees. Some of the deeper pits had a few steps leading down. As for the less deep ones, people could have simply jumped down into them. Living in these pits was a way in which the early neolithic people of Burzahom tried to keep snug and warm in the bitterly cold winter.

How do we know people actually lived in these pits?

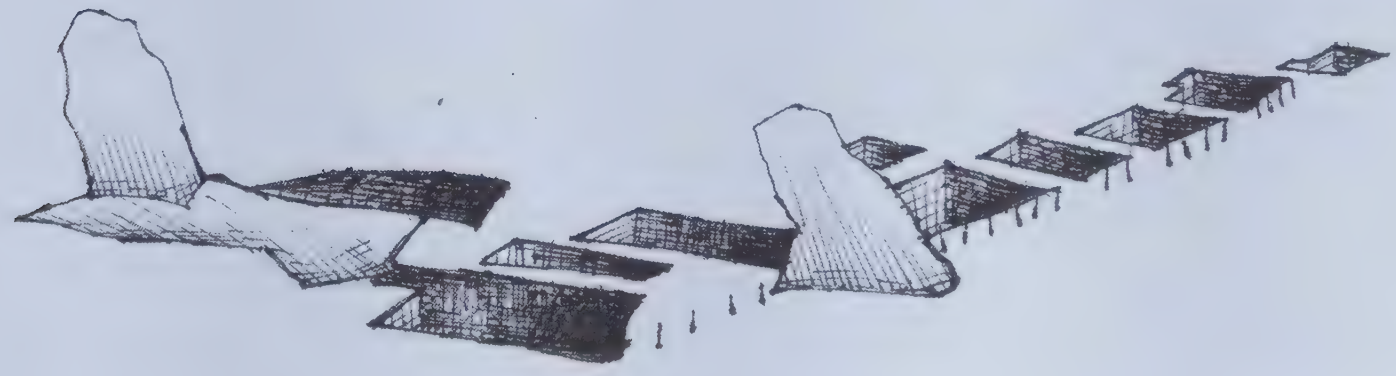
Ash, charcoal and pieces of pottery were found in them. Some of the pits had ovens (*chulas*) made of stone or clay, on which people cooked their food. A stone used for grinding grain was found in one of them. All this proves that people lived in the pits.

Burzahom: In this scene carved on a rock, a hunter pierces a stag with an arrow from the front, while another person attacks it with a long spear from behind. Can you guess why the artist might have carved two suns in the sky?

The early neolithic people of Burzahom made simple hand-made pots in different shapes and sizes, grey, red and brown in colour. They made polished stone tools. One of the unique things about the neolithic culture of Burzahom is that the people also made a lot of tools out of animal bones and antlers. The bone tools included harpoons for fishing, needles for sewing, and arrow-heads, spear-heads and daggers for hunting.

At some point of time, in about 2000 B.C., there were some changes in the way of life of the neolithic people of Burzahom. Archaeologists call this phase Period II. The people gave up their pit homes and started to live in mud huts at ground level. What happened to the old abandoned pit dwellings? Some of them were filled up and the new houses were built over them. Another change took place in the pottery. The potters of Burzahom started making a new kind of shiny black pottery which was probably used by people on special occasions. Most of the pottery was hand-made but a few pots were made on the potter's wheel. One of the exciting finds was a red wheel-made pot filled with 950 beautiful beads made of semi-precious stones.

More and more stone and bone tools were now being made and they had a better finish compared to the earlier ones. Many burials of this phase were discovered. The burials were usually under house floors or in the compounds. The people seem to have smeared red ochre (geru) on the bodies before burying them. Most of the burials did not have any items placed along with the body.

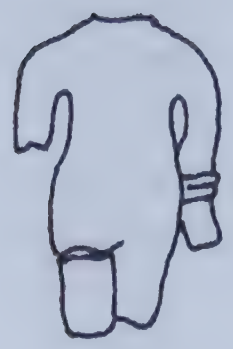


This is what Burzahom looked like when archaeologists were excavating there. You can see the Himalayan foot-hills behind the excavation trenches.

Apart from human burials, burials of animals were also found. Animals were sometimes buried along with humans and sometimes on their own. They included wild animals like wolves, ibex (mountain goat), deer and snow leopards. The tamed or domesticated animals that appear in the burials include dogs, cattle, buffaloes, goats and sheep. Animal burials of this kind are not found at neolithic sites in other parts of India.

An interesting discovery was a stone slab with a hunting scene carved on it. It shows two hunters hunting a stag. One hunter is armed with a long spear and the other with a bow and arrow. This shows us that hunting was still a part of the life of the neolithic people of Burzahom. Recently, scientists studied the seeds found at neolithic levels of Burzahom. They identified seeds of wild and cultivated types of wheat, barley and lentils (*dals*) of different kinds.

After the discovery and excavation of Burzahom, many other neolithic sites were discovered in Kashmir at places such as Begagund, Gofkral, Hariparigom, Olchibag, Pampur, Panzgom, Sombur Waztal, and Brah. The types of houses and tools at these sites are similar to those of Burzahom. This shows us that the neolithic cultures in different parts of our country had their own special features.



DHOLAVIRA

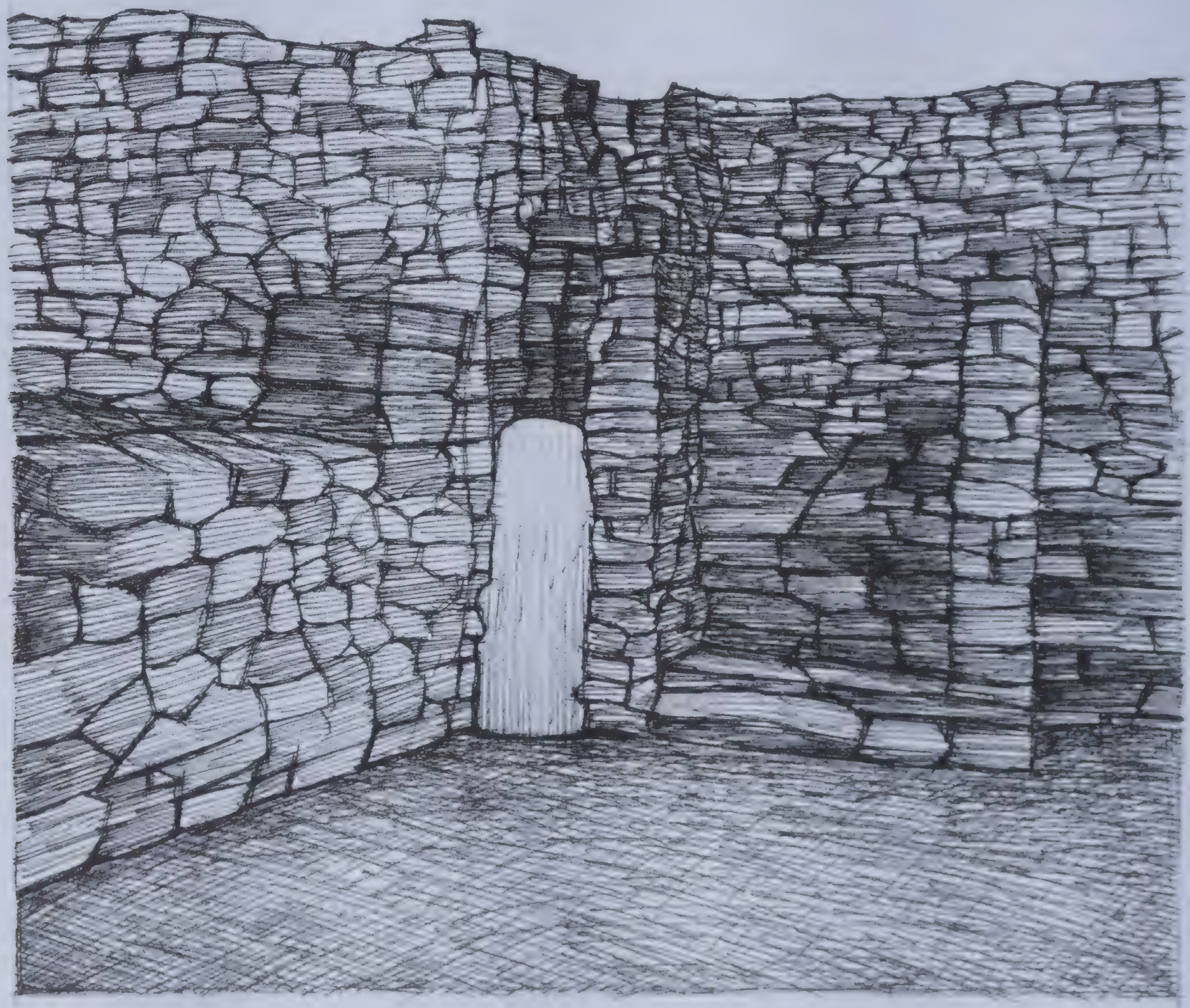
The Rann of Katch in Gujarat is an amazing and unique part of our country. The land here is very close to sea level and the sea is close by. So the land and sea seem to be constantly playing hide-and-seek with each other. In the summer months, the sea water moves onto the land. During the rainy season, the rivers bring down more water and the whole Rann gets covered by a sheet of water. The thickness of the sheet of water ranges from 30-91 cm, but in some places, it is over 2 m deep. In winter, the water recedes, and the Rann becomes dry. At this time of the year, it is covered by vast white sheets that look like snow. Only it isn't snow, it is the salt left behind by the sea water. Inspite of the coming and going of the sea water, the Rann is never cut off from the area around it. People can and do travel across it in all seasons, following tried and tested routes. There is a large island in the Rann known as Khadir. And on this island is a site called Dholavira.

The Harappan or the Indus civilization was one of the oldest civilizations in the world. Mohenjo-daro and Harappa (which are now in Pakistan) were the first to be discovered, but since then lots of sites including cities, towns, and villages belonging to this civilization have been found in various parts of India and Pakistan. We know today that this civilization had spread far beyond the Indus valley to the areas covered by the modern states of Haryana, Punjab, Rajasthan, Gujarat and western Uttar Pradesh.

Dholavira is one of the largest sites of the Harappan civilization. Although it was discovered in 1967-68, it was excavated from the 1990's onwards. The

grand city at this site seems to have been built and occupied between about c. 2500 B.C. and 1900 B.C.. But people lived here both before and after this as well. Some of the things that were discovered during the excavations were very similar to what was found at other sites of the Harappan civilization. These included certain kinds of red pottery with designs in black, seals with the Harappan writing, stone blades and beads of various kinds of semi-precious stones. But there were also some unique features.

Two streams flow past Dholavira—the Mansar on the north and the Manhar on the south. These fill up with water only when it rains heavily, and are



The massive stone walls of the citadel at Dholavira.

otherwise dry. Although there are a few patches of fertile land here and there where crops are grown, most of the land around Dholavira is rocky and quite bare. It isn't bad for grazing cattle, but not too good for growing crops. This part of Kutch gets very little rain. But Dholavira has an important advantage. The rocks in the area absorb water well. This means that people can pump out ground water in times when water is in short supply.

As you approach Dholavira, the first thing you see are the massive fortification walls rising against the dry landscape. Within these walls was a carefully-designed city. Unlike other Harappan cities which had two parts, the city of Dholavira had *three* parts. The archaeologists who excavated the site gave these parts these names – the Acropolis, Middle Town, and Lower Town. The Acropolis was located on a raised platform. Remains of several buildings made of well-cut blocks of stone, a carefully-planned system of drains, and a large well were found here. This must have been the place where the rulers lived. Archaeologists call this part the 'Castle'. Some of the buildings may have been used for the business of administration or for religious purposes. Next to this area was a place (archaeologists call it the 'Bailey') where other important people, maybe the officials, lived. The Acropolis was surrounded by a massive wall, with gates on at least three sides. To the north of the Acropolis was the Middle Town. This too was surrounded by walls. The buildings and streets in this part of the city were arranged in a neat and regular way. Well-to-do-people must have lived in this area. The third part of the city was the Lower Town. This was not surrounded by walls. Ordinary people lived here. These would have included artisans who made things like pottery and beads, and farmers who tilled fields outside the city.

The people who designed Dholavira were careful to leave wide open spaces between the different sections of the town. One of the most interesting open spaces in the city was between the Acropolis and the Middle Town. It looks like a huge open-air stadium. Some important activities or ceremonies must have been held here, and lots of people must have come to watch.

Since water is scarce in this area, it is not surprising that the people who planned the city made careful arrangements for water supply. There are two very large water reservoirs made of carefully and evenly-cut pieces of stone. Apart from these, several cisterns and wells have been found in different parts of the city, so that the precious rain water and ground water could be stored and used. The people also built a large stone dam across the Mansar stream. This was probably either to store water or to divert it to a reservoir.

There are many traces of houses outside the city walls as well. These seem to have been small settlements, maybe of merchants who brought their wares to the markets of Dholavira, or of farmers or herdsmen. To the west of the city was a cemetery, where several burials were found.

In most of the other Harappan sites that have been discovered so far, people mainly used bricks to make buildings. But at Dholavira, a lot of stone was used for making houses, drains and water reservoirs. This is not surprising, because sandstone was available in plenty in the area. Several broken parts of pillars and their bases that have been found in the gateway areas of the Acropolis. These have a smooth, polished surface. They show that the Harappans knew how to make grand, impressive structures out of stone. Before the discoveries at Dholavira, historians thought that these techniques first made their appearance much later, in the Mauryan period in the fourth century B.C..

One of the most dramatic discoveries at Dholavira was made in one of the side rooms of the northern gateway to the city. The Harappans had arranged and set pieces of gypsum (a kind of mineral) to form ten large letters on a big wooden board. At some point of time the board fell down flat on its face. The wood decayed, but the arrangement of the letters survived. What did the sign say? Did it give the name of a place? Or was it the name or title of a person? Did it offer some other sort of information, advice or warning to people who approached the city? We don't know, because the system of writing or script of the Harappans has not yet been deciphered.

What sort of language did the Harappans speak, and what kind of writing system did they have?

We don't know for sure what language the Harappans spoke, and we can't read their script – yet. Still, we do know a few things about their system of writing. The Harappan script seems to have had about 400 basic signs, with many variations. The signs probably stood for words and for syllables. The direction of the writing was generally from right to left. Most of the inscriptions are found on seals (mostly made out of stone) and sealings (pieces of clay on which the seal was pressed down to leave its impression). Some inscriptions are also found on copper tablets, bronze implements, and small objects made of terracotta, stone and faience. The seals were probably used in trade and also for official, administrative work. So the Harappans seem to have used writing mainly for these sorts of things. A lot of the inscribed material was found at Mohenjo daro.

Why did the Harappans decide to build this huge city on an island in the Rann of Kutch? The Harappans had a very well-developed system of trade both within India and with other lands. Dholavira was probably an important stopping point on the route between the Harappan cities in the Indus valley and the Harappan cities in other parts of Gujarat. There is also a possibility that in ancient times, water levels in the Rann were higher than they are today. Boats carrying goods may have been able to come right up to Dholavira. In fact there are several Harappan sites along the coast of Kutch. All these sites may have been involved in the flourishing sea trade between the Harappans and the Persian Gulf area. Today, Dholavira may look like a city in the middle of nowhere. But in those times it must have been an important stop on busy trade routes.

This is what the city of Dholavira must have looked like.

BANAWALI

Like Dholavira in Gujarat, the Harappan site of Banawali in Haryana tells us the interesting story of how a small village turned into a town and then declined. No river flows past Banawali today, but there is a dry bed of a river known by several names – Rangoi, Sottar, Nali, and Nadi. At one time it must have been a good source of water for the people who lived here.

We do not know just how big the settlement at Banawali was in the beginning (archaeologists call this first stage Period I). This is because only a small part of it was excavated. The houses were laid out neatly in either north-south or east-west arrangement. They were usually made of sun-dried mud bricks, but some of them were made of bricks baked in kilns. Inside the houses archaeologists found mud ovens (*chulas*) where people did their cooking. There were other deeper pits with plastered walls which may have been used to store food grains. Pots with different designs on them were made and used. One pot had a design that looked like a horned animal. Another had what looked like a cart with a canopy over it. The other things that were found were a stone weight, and an arrow-head and fish-hook made of copper. There were also beads made of clay, bone, a stone called steatite and semi-precious stones such as lapis lazuli and carnelian. Bangles were made of shell, clay, and faience (this was usually made out of crushed quartz stone mixed with a little lime).

At some point of time, in about 2300 B.C. or so, the settlement at Banawali became a town with a new lay-out. The town had two parts — a citadel area and a lower town. In some other cities of the Harappan civilization the citadel

and the lower town are separate from each other. But at Banawali both these sections are located in the same area, although there was a wall that separated the two. The citadel was built at a higher, more prominent level than the rest of the city. This showed off its importance. The wall of the citadel had bastions –

Banawali: This beautiful red jar has different kinds of designs painted on it in black. Next to it are clay toys that children played with long ago.

towers from which guards could keep a watch on who was coming and going. There was a ramp made of bricks leading from the lower town into the citadel. The whole city was surrounded by strong walls, and the walls were surrounded by a moat for added protection.

What is the difference between a village and a town or city?

Size and population for one thing. Villages tend to be smaller than towns and cities and fewer people live there. The architecture and planning of towns and cities tend to be on a larger scale than that of villages. Cities often contain large, sometimes very grand buildings. Most people living in a village are involved in farming. But cities have many people who are involved in other sorts of activities as well. There may be some farmers, but there are also rulers, craftspersons, traders, priests and others.

If a visitor came into Banawali through the eastern gateway, she would find herself in a wide open space from where three streets branched off in different directions into the city. Inside the city there were some big houses where rich people must have lived. These houses had a central courtyard, with several rooms built all around. The floors of the rooms were sometimes paved with bricks. The bricks were bigger that those used in the earlier period. Bricks baked in kilns were usually reserved for places where some kind of water-proofing was useful – for wells, pavements of bathrooms and drains. Otherwise, sun-dried bricks were used.

One of the houses had many rooms, including a kitchen and a bathroom. Inside the bathroom there was a large pottery jar that seemed to function as a wash basin. There was a drain nearby, which led the used water into a large refuse jar outside the street. Lots of seals and weights were found in this house, so we can guess that it must have belonged to a rich merchant. Another house seems to have belonged to a jeweller. Many beautiful beads made of materials like gold, lapis lazuli and carnelian were found in it. Some tiny weights were also discovered. Particularly interesting was the discovery of a 'touchstone.' Jewellers rub gold against such a stone to test whether it is pure or not. The stone found in this house had streaks of gold on it, which gave the clue that this is what it was used for.

Many of the things found at Banawali were similar to those found at other sites of the Harappan civilization. These include seals with the Harappan script. Interestingly, the seals were only found in the lower town and not in the citadel.

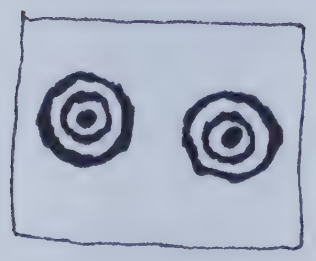
Banawali: The striped animal on this terracotta sealing (a sealing is something on which a seal is pressed down to leave an impression) must be a tiger. On the top something is written in the Harappan script.

We know that some of the seals must have been used by traders. Does this mean that only the people who lived in the lower town were involved in trade? We are not sure. Blades made of stone have also been found. Terracotta figurines, many of them of what seems to have been a goddess, have also been found. Terracotta is a hard-baked reddish-brown clay. Small pieces made out of stone, ivory and bone that seem to have been used to play games with (archaeologists call them 'gamesmen') were also found. One of the most important things found at Banawali was a clay model of a plough. This shows that the people of Banawali were familiar with the use of this implement. The actual ploughs used by them must have been made of wood, and have not survived.

We are not sure what led to the end of town-life in Banawali. But we do know that the site was deserted for some time. And then, after some time, people moved into the area and settled down to the east of the old city. But their way of life was rather different from the life of the city-dwellers who had lived here before. The town planning, the fortification, the seals, writing … all these things

had disappeared. The new houses were made of mud, not bricks. Fewer artifacts have been found from this phase. But some craftsmen were still active. New kinds of pottery with different sorts of designs were being made. Some of the craftsmen of Banawali seem to have specialized in the making of ornaments made of faience. Lots of beads, rings, earrings, bangles, and anklets of this period have been found.

Other sites of the Harappan civilization found in Haryana include Balu, Siswal, Mitathal, Bhagwanpura, and Rakhigrahi. Remains of the Harappan civilization have also been found in the western part of Uttar Pradesh. All these sites show us how far eastwards the Harappan civilization had spread. Archaeologists are still working out the story of how and why the Harappan civilization declined. How and why did flourishing cities and towns fade away and make way for village life? What happened to the brisk trade that the Harappan carried on with various parts of the country and with foreign lands? And what happened to their system of writing? The evidence from excavations at more and more Harappan sites might give us a clearer idea about the answers to these puzzles.

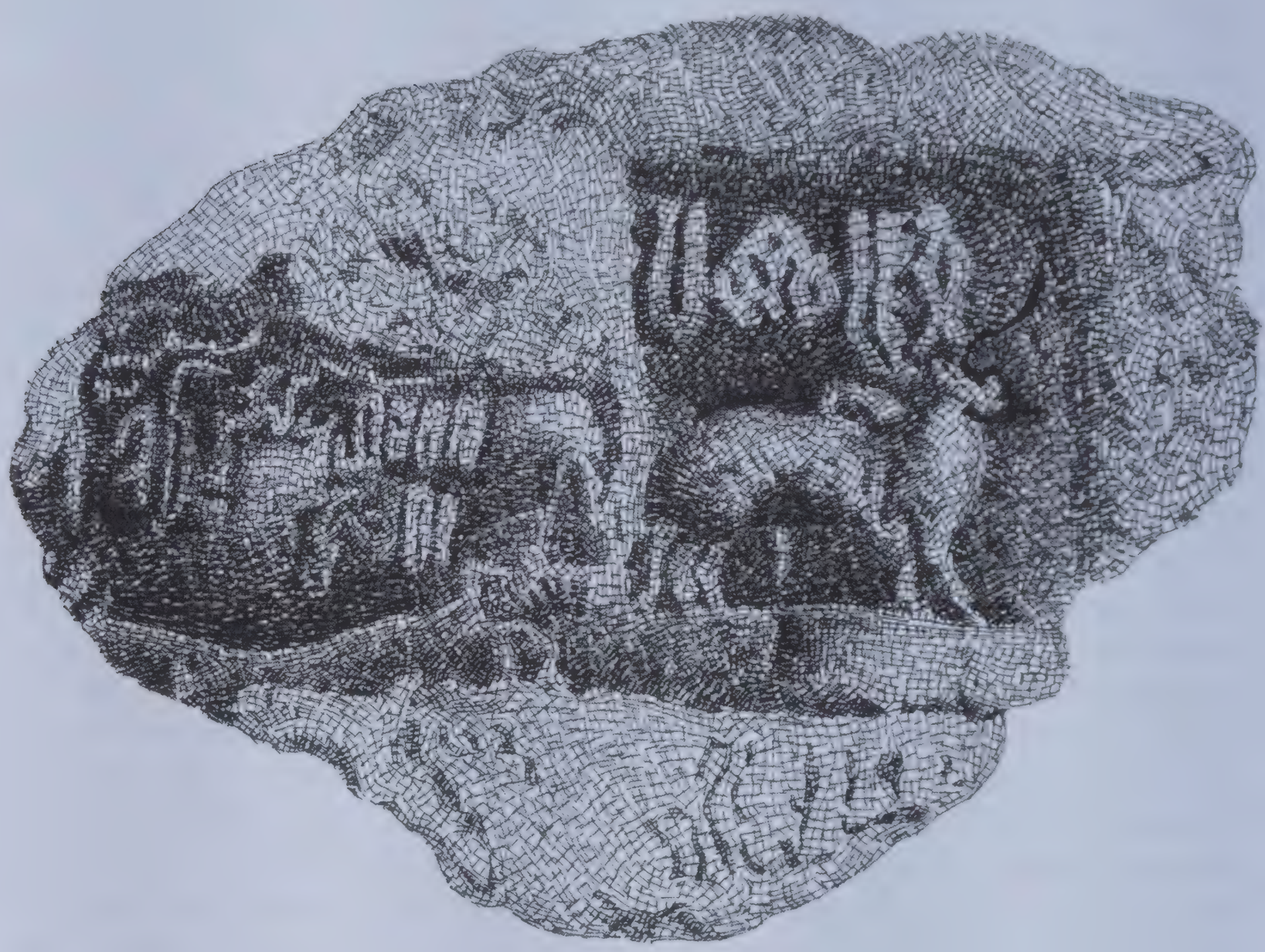


ROPAR

On the banks of the Sutlej river, at the point where the river emerges from the Siwalik hills into the plains of the Punjab, there is a town called Ropar or Rupnagar. The modern town is itself situated on a mound, and there are two other mounds near it. Excavations at these two mounds have shown that Ropar is a very old and important archaeological site. The earliest settlement here belonged to the Harappan civilization and the latest one belonged to the medieval period. This site was inhabited from about 2100 B.C. to 1700 A.D. This means that it tells us the story of the different people who lived here over almost 4000 years! Archaeologists have divided the discoveries at Ropar into seven periods or phases. Period I is when the first settlement appeared at the site and Period VII belongs to the medieval period.

Ropar was the first site of the Harappan civilization to be excavated in India after our country became independent (the other sites which had been excavated so far were in Pakistan). The typical red Harappan pottery with black designs was found here. So were the typical stone blades and copper and bronze objects such as spearheads, arrowheads and razor blades. Other items included beads and bangles made of faience, triangular terracotta cakes (we're not sure what these were for, but they certainly weren't eaten!), and stone weights made out of chert. A seal and some of the pottery had the Harappan writing on it.

Because archaeologists excavated only a small area of the Harappan town at Ropar, we do not know how the buildings and streets were arranged. Some remains of houses were found, and these were made of stone and brick. Some



Ropar: You can see the impression of two seals on this clay sealing.
The one on the right has the figure of a bull on it.

of the bricks were baked in kilns. A cemetery of this period was also found. Most of the graves had grave goods like pots buried with the body. One of the graves had two levels — the skeleton of dog was found at the lower level and that of a man at a higher level. The dog was probably the man's pet. Many animal bones were found. These included the bones of dogs, rats, elephants, humped cattle, buffaloes, goats, sheep and pigs. The bones show that the people who lived here domesticated various animals. This settlement of Period I was abandoned in about 1400 B.C. We don't know why this happened.

Is it possible to tell the difference between the bones of wild and domesticated animals and the seeds of wild and cultivated plants?

Yes, it is. Scientists carefully study the bones and seeds found in excavations. They can often figure out which kind of animal the bones belonged to. This is not always easy. For example, while it is easy to tell the difference between horse bones and elephant bones, it is not as easy to tell the difference between the bones of sheep and goats, or between those of different kinds of deer. The bone structure of wild and domesticated animals is different, so scientists can often tell the whether the bones found at a site belonged to wild or domesticated animals. They can do the same thing with plant seeds or grains, because there are differences in the shape, size and cell patterns of the seeds of wild and cultivated varieties of plants.

Bronze spearheads found at Ropar.

Ropar was re-occupied many centuries later, in about 1000 B.C.. In this second phase (which archaeologists call Period II), people used a special, very fine type of pottery known as Painted Grey Ware (PGW for short). Plates, bowls and a water-pot of this type were found. This pottery was probably used by well-to-do people on special occasions, just as in our homes we often have special crockery that we take out and use when we invite guests. For cooking, storing and every-day use, ordinary pots and utensils (red, black, or grey in colour) were used. People lived in mud houses. They used copper tools and implements, but they were also beginning to learn the advantages of iron. They wore ornaments like bangles made of clay and glass. Beads were made of baked clay

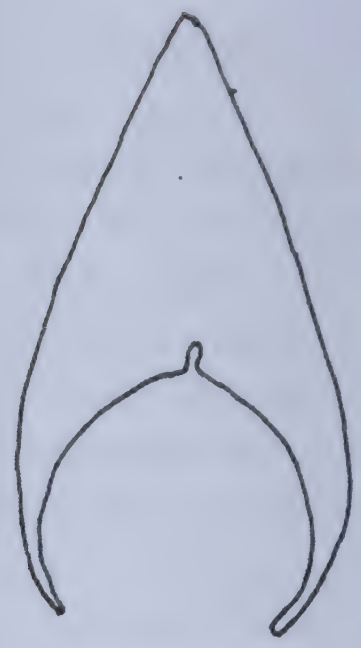
This is a curved blade made of bronze found at Ropar.

and semi-precious stones. Lots of animal bones were found in Period II at Ropar. These included bones of the partridge, rat, and spotted deer, and those of domesticated animals such as dog, ass, humped cattle, buffalo, goat, sheep and pig. The dates given for Period II are c. 1000-600 B.C..

The third phase (Period III, c. 600-200 B.C.) in the history of Ropar saw many changes in the way of life of the people. The settlement was becoming a prosperous town once again. A new kind of shiny black pottery became fashionable. Archaeologists call it Northern Black Polished Ware (NBP for short). Like the PGW of the early period, the NBP pottery was a special pottery used on special occasions. Archaeologists found that people repaired broken NBP pots by using copper wire. Clearly, it was too precious to simply throw away. There were other kinds of ordinary pottery, mostly red or grey in colour, for every-day use. People lived in houses made out of stone and brick. A reservoir of this period used for storing water was found. Soak pits (pits filled with stone and mud into which waste water was drained) were found. Archaeologists also found the remains of a bead-maker's workshop.

The people of Period III used many kinds of copper objects – from small items like nails and pins to bigger ones like utensils. Many artifacts made of iron were also found, showing that this metal was now being used in a big way. Clay models of carts, animals, birds and humans were discovered. Most of these must have been toys with which small children played. More sophisticated items included carved ivory combs and hair-pins. There is also an ivory seal with the name of someone (perhaps a trader) in the ancient Brahmi writing. Coins made of copper and silver were also used. Trade seems to have been picking up.

The earliest settlement at Ropar can be described as a town. In Period II, the town declined. In Period III, we again see a town emerging here for a second time. How do we explain the coming up of a town, its decline, and then the reappearance of city life at sites such as Ropar? Archaeologists and historians are still trying to figure out the explanation. But the history of Ropar does not end here. With some breaks, people continued to live here till the medieval period.

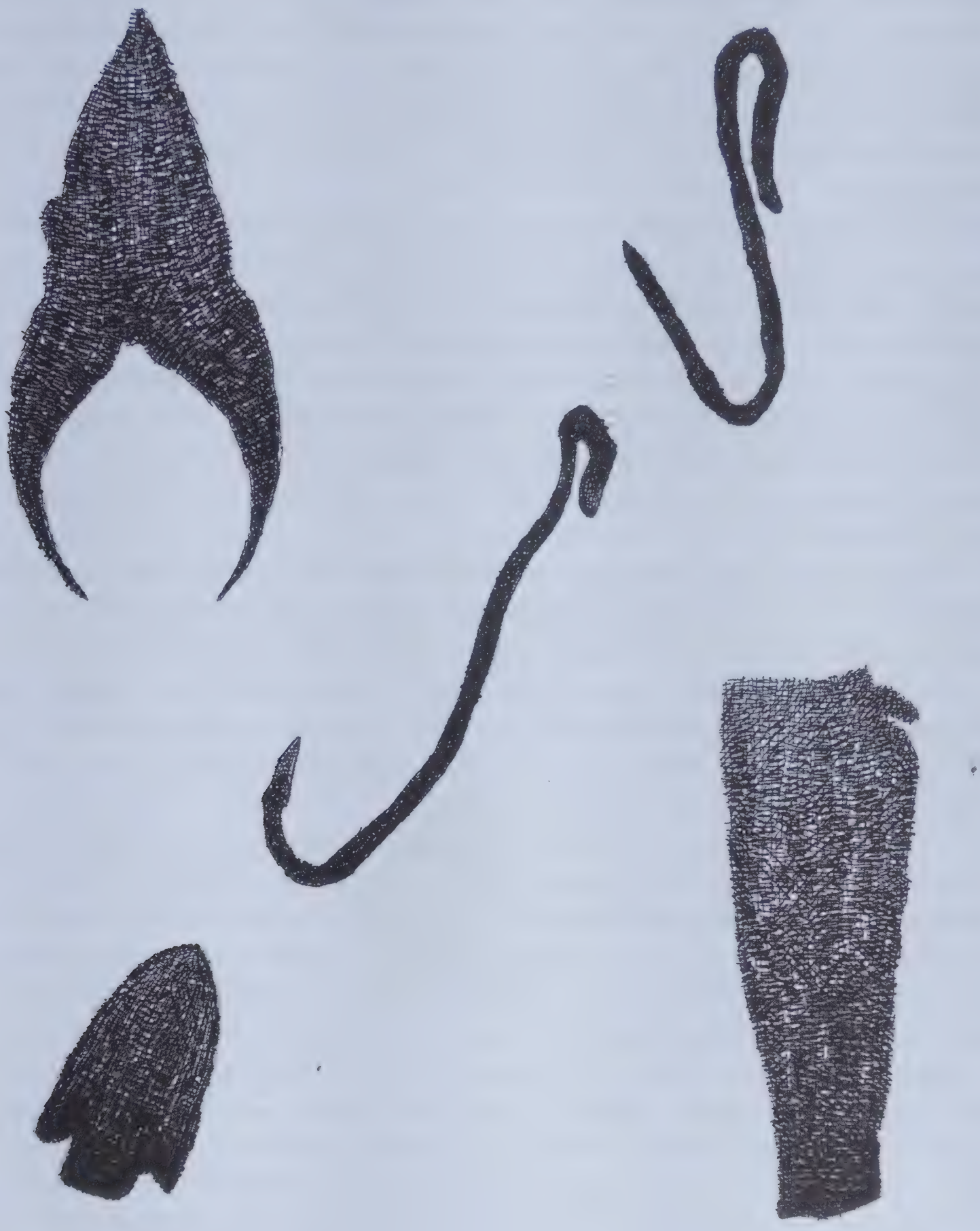


GANESHWAR

When we think of Rajasthan we usually think of a land of desert, forts, and camels. But there is much more to Rajasthan. Did you know that in ancient times Rajasthan was important for its copper mining and copper crafts? Copper was one of the earliest metals used in a big way by human beings all over the world. In India, copper ores (rocks in which copper is found) are found in various parts of Rajasthan, Gujarat, Bihar, Uttar Pradesh, and Andhra Pradesh. There is evidence of mining and the making of copper artifacts at many sites in these areas, which shows that people knew about and were using many of these sources of copper ore from very ancient times. The Aravalli hills of Rajasthan are rich in minerals and in metals such as copper, tin and iron. The Khetri area is especially rich in copper ores. These were extracted, melted and then made into different kinds of implements at various factory sites. Ganeshwar is an important site of this kind.

What do archaeologists mean by 'factory sites?'

Factory sites are sites where people made certain things on a large scale—things like stone tools, metal items, or beads, for instance. Don't, however, think of modern factories with machines! Because these sorts of things did not exist then. Factory sites were usually located close to the raw materials that were need to make the craft items.



The copper artefacts found at Ganeswar include arrowheads (i, ii) fish-hooks (iii, iv) and celts (v). The celts would have been attached onto wooden handles to make axes for cutting or chopping.

When we look at an ordinary metal object, we usually do not realize all the hard work, skill, and time that must have gone into making it. The rocks containing the ores had to be dug out of the hills. They then had to be melted in specially made furnaces where a temperature of 1084° centigrade had to be maintained (this is the temperature at which copper melts). The craftsmen then made different kinds of artifacts out of the copper, using different kinds of techniques.

The site of Ganeshwar was discovered in the 1970's, and that is when the excavations began. The earliest settlers here were stone age people who used small stone tools which archaeologists call microliths. It was clear that their tools were made at the site because bits of stone and waste material were found along with the finished tools. These people were food gatherers and hunters. Bones of animals, mostly of wild animals, were found. This suggests that the people got at least part of their food by hunting. In the beginning they seem to have hunted mainly birds and small animals, but later they increasingly hunted bigger animals.

Gradually, things changed, and in the second stage (archaeologists call this Period II), the first copper objects appeared at Ganeshwar. These included arrowheads, fish-hooks, a spearhead, and an awl (a small, pointed tool). This shows that the people were beginning to make and use copper tools and implements, but on a small scale. The people also made hand-made and wheel-made pottery. They lived in round huts which had floors paved with stone. They continued to hunt and use microliths.

Ganeshwar soon developed into a major copper working site. In the earlier phases, only a handful of copper artifacts were found. But in the later period (which archaeologists call Period III), *hundreds* of such artifacts were found at this small site. The metal for making all these objects came from the copper ore mines nearby. Not only did the number of copper items go up (compared to the earlier period at Ganeswar), *new* types of items were being made. Apart from weapons like arrow-heads, spearheads, and fish-hooks, there were ornaments like rings and bangles, carpentry tools like chisels, and other implements like axes. Most of the arrowheads had sharp points and were probably used to hunt birds. There are others, however, which have an unusual curved tip. Going by the hundreds of arrowheads found at Ganeswar and the animal bones found at the site, it is clear that hunting was still an important part of the lives of these people.

The things that people make and the way in which they make them is an

important part of their culture. Some of the craft items we find at a site may have been brought from other places, while others may have been made locally. A large number of craft items and remains of workshops point to the presence of skilled craftspersons. Craft techniques were learnt, perfected, and taught over many generations. The craftsmen of Ganeshwar were making copper items from about 3000 B.C., from a time even before the cities of the Harappan civilization emerged. They gradually started trading these items with other people. The copper artefacts from Ganeswar found their way to Harappan sites and to many other places in north and central India.

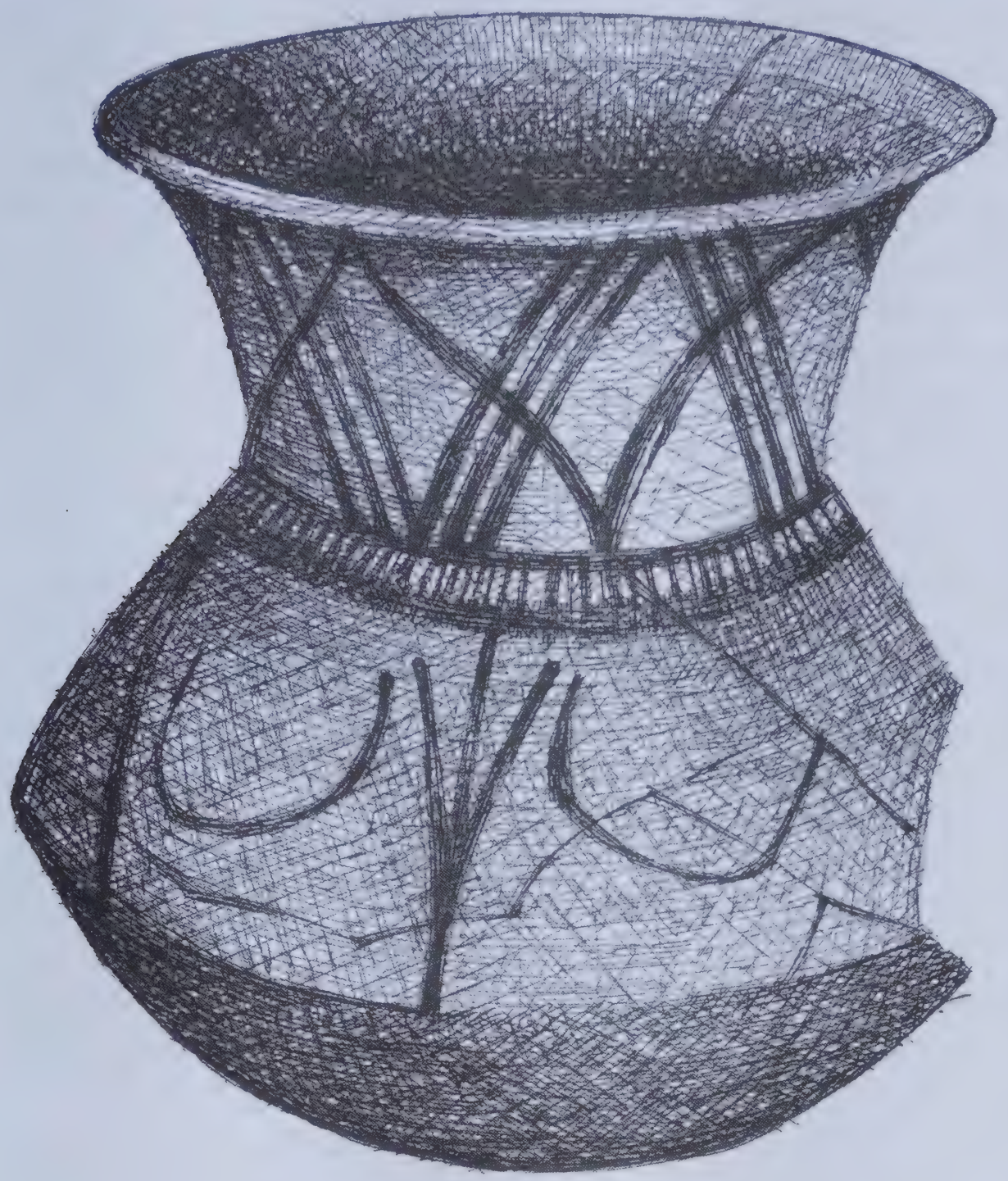
These days, scientists can analyse metal objects and tell us about the metal composition and the way in which the artifacts were made. These tests can also help us identify from which area the ores came from. The copper workers of Ganeshwar seem to have made many artifacts out of pure copper. But they also knew the technique of strengthening the copper by alloying it with other metals such as tin.

Ganeshwar, Jodhpura, and Bagor were important centers of copper melting and working in north-east Rajasthan. There were a number of important sites in south-east Rajasthan as well – sites such as Ahar, Balathal and Gilund. Clearly, Rajasthan was a major supplier of copper and copper artefacts to other parts of India.

INAMGAON

Inamgaon, on the banks of the river Ghod in Maharashtra, is one of the largest and most exciting chalcolithic sites in India. The word 'chalcolithic' means that people used stone along with copper to make different things. Inamgaon was excavated in the 1960s and 1970's. The excavations were horizontal, which means that the digging was done over a large area. The aim of the archaeologists was to find out as much as they could about the early farmers who lived at this site between about 1600 B.C. to 700 B.C..

Inamgaon does not get much rainfall. But the Ghod river flows past it. The Ghod is a tributary of the Bhima, which in turn is a tributary of the Krishna river. Hundreds of years ago, the forests in the area must have been full of wild animals that could be hunted for food. Stones of different kinds were available in plenty for making tools and weapons. The earliest settlers in the Ghod valley were stone age people. Many different kinds of stone tools and fossils of animal bones from this period have been found. The fossils include the bones of a hippopotomus that probably lived some 20,000 years ago. But the archaeologists who excavated Inamgaon concentrated on finding out about the life of the chalcolithic people here (the chalcolithic age came after the stone age was over). The chalcolithic settlement at Inamgaon lasted for about 900 years. Archaeologists divide this up into three periods: Period I was the oldest period, and stretched from about 1600 B.C. to 1400 B.C.. Period II was the middle phase and stretched from c. 1400 B.C. to 1000 B.C.. And Period III, the latest phase, lasted from c. 1000 B.C. to 700 B.C.



Look at this beautiful jar from Inamgaon. It is pinkish-red in colour with designs painted on in black.

Archaeologists excavated the remains of as many as 134 mud houses at Inamgaon. The houses were difficult to locate, because only the floor surface and edges remained. The rest of the house – the walls and the roof – had crumbled and had to be imagined. The low walls were made of mud, creepers and branches, and the roofs were thatched with grass. People live in similar houses in the area even today. In the earlier phases (Periods I and II), houses were usually rectangular and quite spacious. They were sometimes divided into two rooms by a partition. Inside the houses there were oval-shaped pits

where people cooked their food. Similar *chulas* were also found outside the houses which shows that people must have done some of their cooking outdoors. The remains of storage pits and storage bins were also found.

Going by the size and what was discovered in the various houses, archaeologists were able to figure out the professions of some of the people who lived in them. It was clear that the richer farmers lived in the centre of the settlement. One of the biggest houses had as many as five rooms. This may have been the house of the ruling chief. There was a granary next door. Maybe the chief collected grain from the farmers and stored it here. Artisans such as potters, goldsmiths, lime-makers, bead-makers and ivory-carvers lived on the western edge of the settlement. It has been estimated that at its peak, about 1000 people may have lived in Inamgaon.

Apart from houses, there were several other impressive structures. Most of them belong to Period II (c. 1400-1000 B.C.). A fortification wall was built around the settled area, a landing platform was built for boats on the river front, and an embankment and channels were built to use the water of the Ghod river to irrigate the fields. Building all these things meant careful planning and the cooperation and hard work of many people.

Archaeologists found lots of stone tools and pottery at Inamgaon. Most of the pots were red, sometimes with black designs on them. The stone tools were examined vary carefully and by doing a microwear study or analysis of these tools, it was possible to find out what these tools had been used for. Some of the stone tools had been used for cutting plants, others for cutting meat, and still others for cutting fresh animal hide.

What is microwear analysis?

When a stone tool is used repeatedly for a certain purpose, and comes into contact again and again with the same kind of material or surface, it gets a certain kind of shine or polish on its surface. The interesting thing is that the kind of 'polish' that is created by different kinds of activities such as cutting plants, slicing meat, or scraping animal hides is different. By carefully studying this 'polish' on stone tools with the help of a special kind of microscope, it is possible to find out what people used a tool for.

Although the people of Inamgaon knew how to make artefacts out of copper, copper was scarce and therefore precious. They may have got the copper from Rajasthan or from sources closer to home. A few tools and ornaments

made out of this metal have been found at the site. They include ornaments such as beads, bangles, and anklets and tools and weapons such as drills, tongs, fish hooks and arrowheads. In the latest part of the chalcolithic phase (in Period III), people also started making jewellery out of gold.

Archaeologists found a lot of beads at Inamgaon. These beads were made of different sorts of material like terracotta, semi-precious stones and ivory. Some of the beads were made out of sea shells. Inamgaon is about 200 km away from the sea, so the people must have gone though some amount of trouble to get the sea shells from so far away. The gold and ivory must have been come from

The chalcolithic farmers of Inamgaon must have lived in houses like this.
You can see such houses in the village even today.

Karnataka. All this shows that the people of Inamgaon were involved in trade with people in other parts of the country.

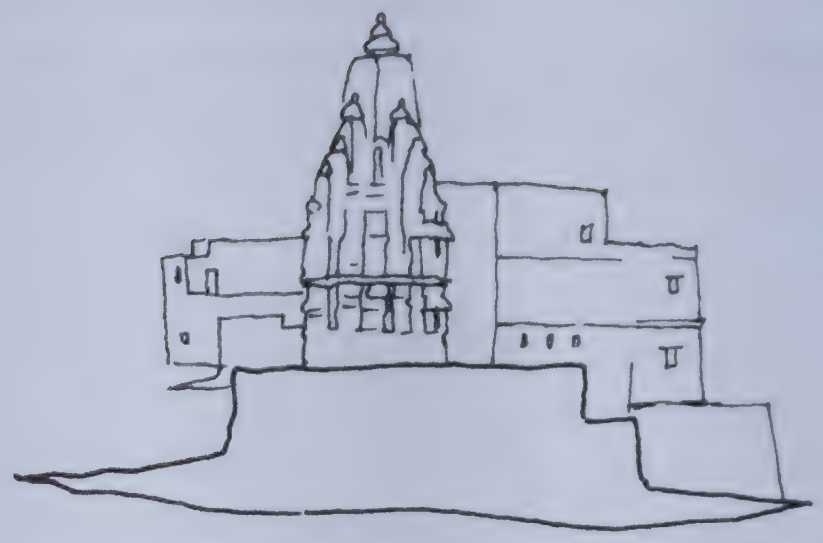
Thanks to the discovery of plant seeds and animal bones in the excavations, we have quite a good idea about the food that the people of Inamgaon ate and how they obtained it. They grew many different crops such as wheat, barley, lentils, peas, gram and beans. Archaeologists also found thousands of animal bones in the course of the excavations. We can tell from the cut-marks and charring on the bones that the meat of some of the animals was eaten. Some of the bones belonged to wild animals such as deer, hares and mongooses. Others belonged to domesticated cattle, sheep, goats, dogs, horses and pigs.

Did you know that scientists can make some good guesses about the kind of food people ate during their life-time by doing a chemical study of human bones? They did this with some of the bones found at Inamgaon. They found out that in the earlier periods (Period I and II), people's diet consisted of plant food, meat and dairy products. In the later period (Period III), their meals included more meat and fish and locally gathered plants. Some people seem to have had a better and more nutritious diet than others. These must have been the more well-to-do people. The study also showed that there was no significant difference in the diet of males and females. Scientists also carefully studied the teeth remains found at the site. They found out that the people usually had few cavities, but that they lost their teeth rather early in life.

Many terracotta figurines were found at Inamgaon. Some had been baked and hardened in kilns. Among the animal figurines, some must have been toys, while others may have had a religious significance. The most frequent animal figure is the bull, and the people probably worshipped this animal. They also seem to have worshipped a female goddess. In one of the burials, archaeologists found some things buried in a pit in the ground. There was a clay bull and a headless female figurine. Below these, there was a clay box with a female figurine in it. The curious thing was that there was a hole in the stomach of the headless female and in the back of the bull figurine. If someone put a thin stick through the two holes, the female figure would look as if she was riding on the bull! These do not seem to have been toys but items that formed part of an important household ritual.

In the later part of the chalcolithic phase (Period III), the people of Inamgaon seem to have faced some serious problems. Maybe there was a shortage of rainfall, or maybe there was a decrease in the fertility of the soil. We can't be absolutely sure, but whatever the reasons, there was a decline in farming activity.

People started relying more on hunting and collecting wild plants. They also started keeping more sheep and goats instead of cattle. There were also changes in the kinds of houses they lived in. Instead of the large, rectangular houses, we find small, round huts. Clearly, people were becoming poorer and their old way of life had come to an end.



DWARKA

Marine archaeology or underwater archaeology is a new and exciting kind of archaeology that is becoming important in many parts of the world. In most countries, underwater archaeology usually deals with shipwrecks. But in India, we not only have shipwrecks but entire cities that have been swallowed by the sea. Underwater archaeologists are trying to excavate and find out more about these cities. The idea is to discover and then also try to preserve the historical heritage of our country that lies under the waves of the sea.

Like other branches of archaeology, underwater archaeology involves different kinds of specialists. To begin with, there are the marine archaeologists themselves, who not only have to be good archaeologists but also good divers as well. So if you are afraid of water, this is not the career for you! Others who help in the investigation of underwater sites are oceanographers, geologists, geophysicists, diver-photographers, and other kinds of technical experts.

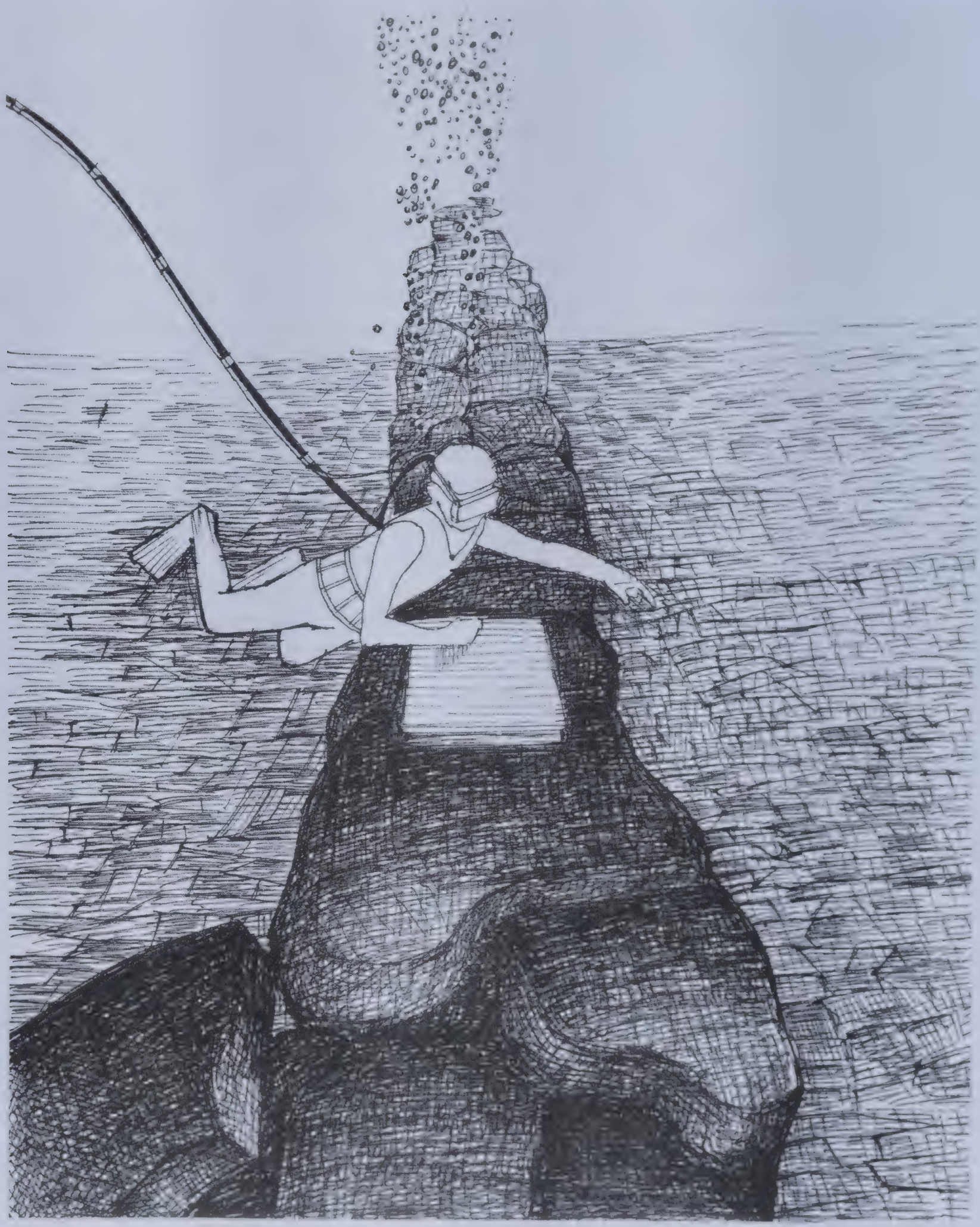
Among the most exciting archaeological discoveries made in our country in recent years are those made off the coast of Dwarka and Bet Dwarka in Gujarat. Excavations have been going on here from 1983 onwards. These two places are 30 km away from each other. Dwarka is on the Arabian sea coast, and Bet Dwarka is in the Gulf of Kutch. Both these places are connected with legends about the god Krishna and there are many temples here, mostly belonging to the medieval period. Archaeologists were keen to find out whether there were any older remains off the coast at these places.

What sort of special equipment do marine archaeologists use?

The boats have to be supplied with underwater camera equipment. High pressure water jets are sometimes needed to dislodge the material on the ocean floor. Arrangements have to be made to carefully lift things out of the water if necessary. The divers need to be provided with diving gear and air and oxygen cylinders. Underwater scooters are also a big help because the archaeologists can zoom along on them instead of tiring themselves out swimming around the site. Different kinds of scientific instruments are also used. An echosounding system registers a rise whenever the boat passes over an underwater object. A side scan electronic system gives a view of the sea floor. Underwater metal detectors held by divers give a signal if they sense any kind of metal object between 3-4 m away.

At Dwarka, marine archaeologists surveyed a large area covered by 3-12 metres of water. They discovered the remains of a submerged port-city that may be as old as about 1500 B.C. The city seems to have been about 1 km long and at least ½ km in breadth. Remains of the fortification walls that must have protected this ancient port city have also been found. We don't know how high these walls were, because very little of them remains. What was the need for these walls? Probably to protect the city from the tides and waves. The walls had gateways and circular or semi-circular bastions (projecting parts of the wall) at regular intervals. There were at least six bastions. We can tell that ships were anchored against the walls, because many anchors have been found near them. Watchmen must have kept track of the sea and stormy weather from the bastions and could have sent out warnings when necessary.

Many of the things that are found in plenty at ordinary sites are difficult to find at underwater sites, because most small, light items simply get washed away by the sea. The things that *have* been found at Dwarka include stone anchors of different kinds, iron stakes and nails, and even some pieces of pottery. The anchors are of different shapes and sizes, some triangular, others roughly rectangular in shape. They have holes in them. Strong ropes were looped through these holes and fixed to wooden stakes. Most of the anchors are very heavy. They weigh 100-150 kg each. You can imagine how difficult it must have been for the marine archaeologists to move them! Clearly, very large ships were docking in the port of Dwarka. Very few house remains have been found in the drowned city. There are a few remains of walls, but it is difficult to figure out what the lay-out or plan of the ancient city was.



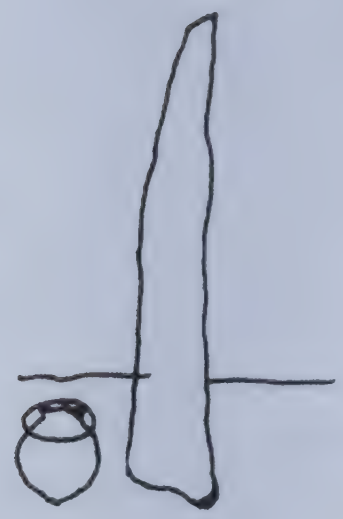
Dwarka: Diver-archaeologists need special gear and equipment for their job.

The island of Bet Dwarka seems to have been a satellite town, connected to the bigger and more imposing port-town of Dwarka. In ancient times, the two places may have been connected to each other with a narrow strip of land. Bet Dwarka too had fortifications around it. Apart from being involved in trade, the people who lived here seem to have specialized in boat-building, shell-working, pearl-diving, and maybe metal-working. Archaeologists found the remains of a house with lots of pieces of conch shells. A craftsman who made things out of shell must have lived here. Another important find was an old inscription on a jar. There was also a seal made out of a conch shell, which was engraved with the unusual design of an animal with three heads – that of a bull, a unicorn and a goat. Although the seal is Indian, the design is similar to those found in the Persian Gulf area. This suggests that the people of Bet Dwarka were trading with this area.

Both at Dwarka and Bet Dwarka, archaeologists found remains and objects belonging to later periods as well. These included remains of structures, stone statues, objects made of copper, bronze, and brass, iron anchors and a wrecked boat. The dates for this second period are c. 200 B.C. to 200 A.D.. These and the dates for the older settlement have come from pottery dated by the thermoluminiscence method.

We don't know exactly how or why the sites of Dwarka and Bet Dwarka got submerged in water. It must have been because of sea levels rising or land levels going down. The first sort of thing can happen due to reasons such as a change in climate, and the second due to disturbances in the earth's crust.

The reason why underwater archaeology is such an exciting area can be guessed at if we remember that India has a 6200 km long coastline. Add to this the fact that there must be all kinds of crucial evidence about ancient cities, ports, and ships lying hidden on the sea-bed. Remember that at present, there are only a handful of marine archaeologists in the country. So if you like water and archaeology, this is the career for you!



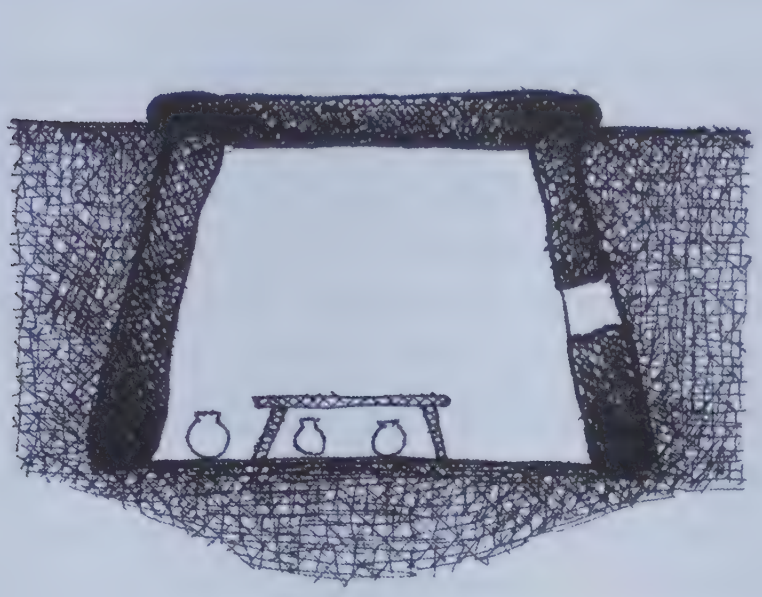
9. MANGADU

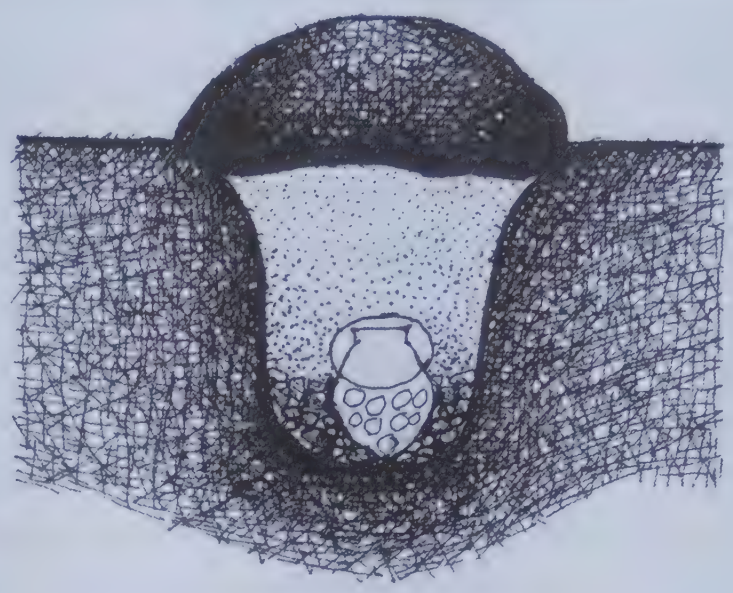
Can you think of something that is common to the prehistoric people of Stonehenge in England, the iron age people of Karnataka and the Khasi people of modern Assam? The answer is megaliths. Megaliths are stone monuments made out of large pieces of roughly-cut stone. They have been found in many parts of the world – in Europe, Asia, Africa, and central and South America. Among the most famous megaliths are those at Stonehenge in Britain. The arrangement of the stones here suggests that this may be one of the oldest astronomical observatories in the world. Lots of careful planning, skill and cooperative work must have gone into moving these huge and heavy pieces of stone to build these kinds of monuments. In India, megaliths were first noticed in various parts of the south. Later, they were also discovered in various parts of the Deccan, in the Vindhyan and Aravalli hills and in the north-west.

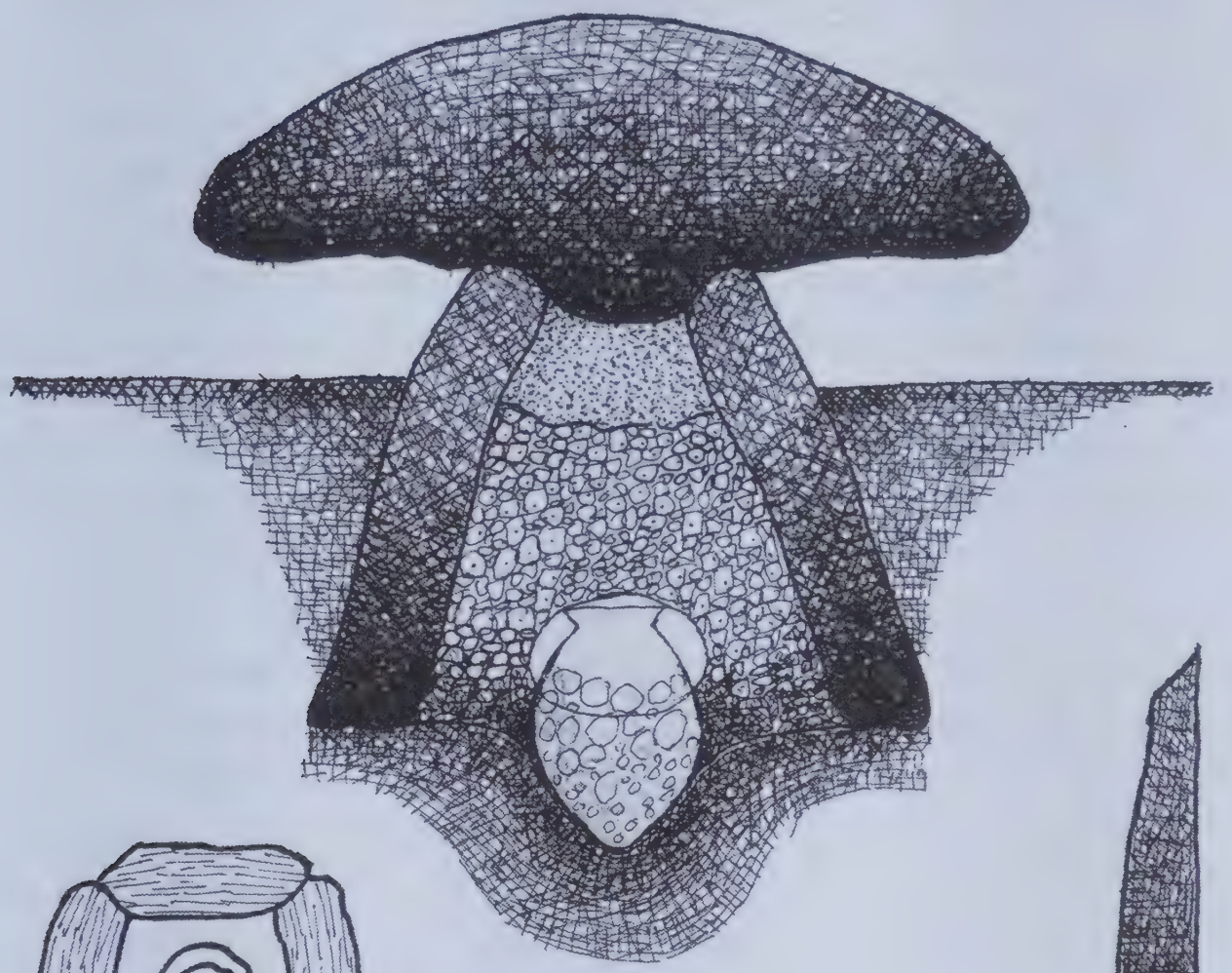
How can we explain the fact that people living in so many different parts of the world at so many different points of time made megaliths?

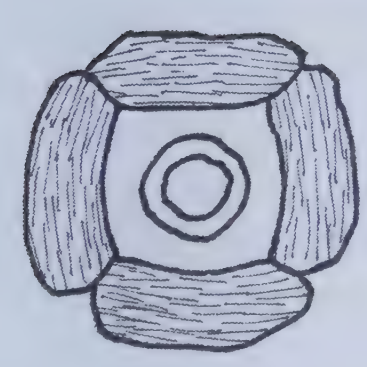
It is not surprising that people living in places where rocks were available should use them for making monuments of different kinds. Perhaps the use of pieces of stone to mark burial places was initially simply to mark the area and also prevent the burial from being disturbed by wild animals.

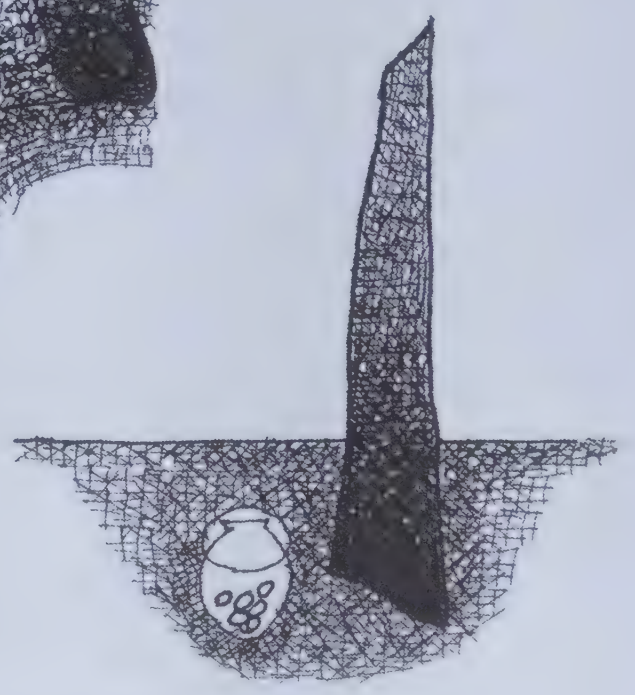
Megalithic monuments come in different shapes and sizes. For example, sometimes the stones were arranged in a circle over the burial area, while in











Mangadu: Can you guess which of these different kinds of megaliths is a *kudaikal* (umbrella stone) and *topikal* (hat-stone)?
(Answer: The *kudaikal* is in the middle and the *topikal* is on the top left.)

other places, a heap of stones was piled over it. Sometimes the megaliths are made like a small room made by carefully arranging stones. These rooms or chambers can be underground, partly underground, or fully above ground level. People placed ashes or bones inside these megaliths, usually in large jars known as urns. There are some megalithic monuments that consist of large stones arranged in a pattern. The most simple kind of megalith consists of a single large stone. This kind of megalith is known as a menhir. Not all megaliths are burial places. In some cases they may just have been memorials to people. Sometimes, we are not sure *what* exactly their purpose might have been.

Mangadu is a recently excavated megalithic site in Kerala. It is close to a large lake called Ashtamudi lake. The place used to be covered with cashewnut trees and lots of other sorts of trees and bushes. The roots of the trees had gone down deep into the ground and had broken many of the large pots or urns buried under the megaliths. Kerala gets very heavy rainfall during the monsoons and rainwater had further damaged the megalithic burials.

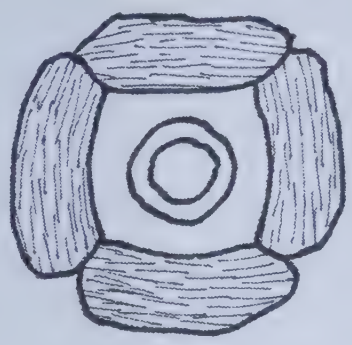
The kind of megaliths that occur very often in Kerala, including at Mangadu, are known as 'topikals' and the 'kudaikals'. 'Topikal' means 'umbrella stone,' and 'kudaikal' means 'hat stone.' The topikals were made by digging a pit and standing up four stones in it. These were then covered with a low, circular stone, which looks like a cap. The burial urn was placed in the middle of the underground pit or chamber. The kudaikals were made in more or less the same way, except that the stone that was placed on top was large and hemispherical in shape – it looked pretty much like an umbrella. There are certain kinds of megaliths that are special to Mankadu. For instance in some cases, several stones are arranged in circles that intersect each other. In other places, the burial is covered by more than one cap-stone. Another unique thing is that sometimes several burial urns were placed together. These were probably places where several generations of people related to each other were buried, sometimes over long periods of time. One of the important things about the excavations at Mangadu is that scientists were able to get some radiocarbon dates. These showed that the megalithic culture here went back to c. 1000 B.C. and continued till c.100 B.C.

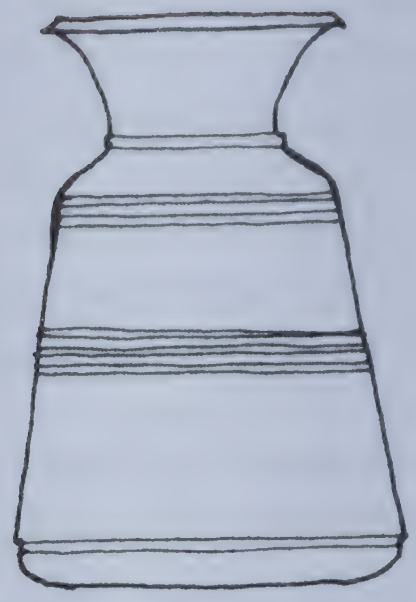
The laterite stone used for making the megaliths of Mangadu was available nearly. The megaliths often contained certain items placed inside or next to the burial urn. These grave goods show that people may have believed that the dead person lived on in the form of a spirit. The grave goods found in the Mangadu megaliths included both ordinary things used in daily life and more

special items. There were pottery, iron objects, and beads made out of a semi-precious stone called carnelian. Some of the beads had designs on them.

The megalithic burials at Mangadu tell us many things about the lives of the people who lived here as long as 3,000 years ago. They tell us about the different sorts of pottery that people made and used. There are large and medium-sized red jars, both of which were hand-made. And there are also smaller pots made on the wheel, some red and others black and red in colour. The fact that iron objects were found in the megaliths shows that the people used iron implements. Iron slag – the waste product of iron smelting – has also been found. This means that iron items were not only used but also *made* in this place. Most of the iron artefacts found at Mangadu — things like sickles, long knives, and blades — seem to have been used in agriculture. This shows that the people were mainly farmers. In fact the land around Mangadu is fertile and well-suited to growing crops.

An interesting thing is that unlike most other megalithic sites in India, there are hardly any *weapons* made of iron found in the graves at Mangadu. This suggests that war was not an important part of the life of these people. The megalithic people of Mangadu seem to have been farmers who were attached to their land and led a peaceful life.





MATHURA

When most people think of an archaeological site, they tend to think of a distant, deserted place with old ruins. But many archaeological sites are not far-away, deserted places. They are bustling with activity, and people still live there. There are many examples of modern cities which are located on ancient archaeological sites. One of them is Mathura, on the banks of the Yamuna river in the state of Uttar Pradesh. In ancient times, Mathura was also known by other names such as Madhura and Madhupura.

In the sixth century B.C., Mathura was the capital of the Surasena kingdom. In the early centuries A.D., it became an important political center of the Kushana empire. But Mathura was an important city of ancient India for other reasons as well. It was a place where goods such as fine cotton cloth, metal artefacts and stone sculptures were produced. It was an important center of trade, because a lot of the trade routes that connected western and eastern India and northern with central and southern India passed through it. These routes also connected India with lands lying to the east and the west. Mathura also had a religious importance. It was a city of temples. In Hindu mythology it is the birth-place of the god Krishna and the scene of action of many of the stories about him. Mathura was an important religious place for Buddhists and Jains as well. And in addition to all this, Mathura was an important center of art and sculpture in ancient India. Some of the most beautiful examples of ancient Indian sculpture were made here.

The ancient remains at Mathura are not found at one spot but are scattered

This stone sculpture of Krishna is one of many found at Mathura.

over many spots. So what we have is not one site, but a *number* of sites in and around the town. Excavations at Mathura have shown that there was a settlement here from about 600 B.C. onwards. The earliest settlement (of Period I) was a small village, located to the north of the modern town. Archaeologists found Painted Grey Ware (PGW) and other kinds of pottery belonging to this period. People lived in mud huts. Terracotta and bone artifacts, beads, and a few copper and iron objects belonging to this period have also been found.

The settlement gradually grew in size and population. By the third century B.C., it had become a prosperous town, about 3.5 sq. km in area. The town was surrounded by a massive mud wall on three sides and the wall seems to have been surrounded by a moat. The Yamuna river protected the town on the eastern side. In this period (archaeologists call it Period II), there was the appearance of

Mathura: This is a stone sculpture of a Jain *tirthankara* (saint).

a new kind of pottery known as the Northern Black Polished Ware, NBP for short. This was used along with other more ordinary types of pottery. Houses were made of mud and their roofs were supported by bamboo or wooden poles. A few buildings were made of baked bricks. Some sort of drainage system also seems to have been there. People started using copper coins for buying and selling things. Many copper and iron items were found; these included a large number of arrowheads. Lots of terracotta artifacts of different kinds were made and used – figures of animals and humans, toy wheels, and gamesmen (pieces

used in some sort of indoor game). Some of the terracottas may have been statues of gods and goddesses that the people worshipped, others may have been children's toys. Some people wore bangles and bead necklaces made of semiprecious stones and bone. A small pot was found with 24 beads made of precious stones in it. Some of the beads seem to have been imported from other lands.

Between c. 200 B.C. and c. 300 A.D. (Periods III and IV), the town of Mathura became more and more prosperous. Houses were made of mud and bricks, but the use of bricks was becoming more and more popular. Brick tiles were sometimes used for roofs, and floors were in some cases plastered with lime. The fortification wall that had started crumbling was repaired and made bigger and stronger. An inner fortification wall was also constructed. Two large reservoirs were built to store water. Many terracottas, seals, coins, beads, copper and stone objects of these centuries were found at the site. New kinds of pottery with new designs made its appearance. Many Jain and Buddhist sculptures belonging to this period have been found.

What do the Mathura inscriptions and sculptures tell us about the entertainments, games and hobbies enjoyed by the people?

The inscriptions mention dancers and actors. Some sculptures show musicians. The musical instruments include the *vina*, harp, conch, flute, tabor, harp, drum and some sort of mouth organ. Some sculptures show women dancing. Others show people playing with their pets, particularly birds such as parrots. Hunting and wrestling were other past-times.

Archaeologists have found evidence of settlement at Mathura till at least the 6th century A.D.. Since Mathura is a bustling modern town, it was not possible for them to do any large-scale excavations here. So we only have some brief glimpses of what life in ancient Mathura was like over the centuries.

THE PURANA QILA IN DELHI

Many ancient sites in our country are connected with ancient legends. The Purana Qila in Delhi is a good example of this. The Purana Qila or Old Fort was built in the sixteenth century by the kings Humayun and Sher Shah Sur. If you go to visit the fort, you will find that as you walk towards the main entrance gate, you are climbing upwards. This is because the fort is built on a mound. People lived at this place for centuries and centuries, long before the fort was built.

A book called the *Ain-I-Akbari* by Abul Fazl was written in the sixteenth century during the reign of the Mughal emperor Akbar. It says that Indraprastha, the capital of the Pandavas, the heroes of the *Mahabharata* story, was located at the spot where Humayun built his fort. In fact, till the end of the nineteenth century, there was a village called Indarpat (which sounds very similar to 'Indraprastha') inside the fort. Was ancient Indraprastha located here? This is a question that is difficult to answer with a simple 'yes' or 'no.'

Archaeologists carried out excavations at the Purana Qila from the 1950's to the 1970's. They were interested in finding out how old this site was, and to find out whether or not it could be identified with ancient Indraprastha. The excavations showed that the Purana Qila was indeed a very old site. Archaeologists found that the settlement had many phases dating from about the fourth century B.C. (or earlier) to the nineteenth century A.D.. Pieces of old pottery known as Painted Grey Ware (PGW for short) were also found here and there, and this suggested that people may have lived at some spot in or around the Purana Qila from about 1000 B.C. onwards.

Why don't we know for sure whether ancient Indraprastha was located on the spot where the Purana Qila stands?

There are several reasons for this. First of all, we are not sure whether the *Mahabharata* is purely a legend, or whether it is a legend based on events that actually happened. Secondly, even if some of the events and people mentioned in the story were real, the evidence from the excavations at the Purana Qila really doesn't tell us about these events or people. What it does tell us is that there was a very old settlement at or near the Purana Qila perhaps from about 1000 B.C. onwards.

These terracotta ring wells found in the Purana Qila excavations were probably used as soak-pits into which waste water was drained.

Look at this unusual pot discovered at the Purana Qila.

Here is a table showing the seven layers or periods identified by archaeologists at the Purana Qila. Different sorts of artifacts were found at the different levels. Remember that the older layers are found at the bottom of a site, and the upper layers are more recent. Think of these archaeological levels as different floors in a seven-storeyed building. As you travel in a lift from the ground floor to the seventh floor, you are travelling forward in time, from earlier to more recent periods.

Period VII:	16th – 19th century
Period VII:	13th – 15th century
Period VI:	10th – 12th century
Period V:	7th – 9th century
Period IV:	4th – 6th century
Period III:	1st – 3rd century A.D.
Period II:	2nd – 1st century B.C.
Period I:	Northern Black Polished Ware level (4th/3rd century B.C.)

(Pieces of Painted Grey Ware pottery were found but the PGW level was not identified).

The discoveries made in the Purana Qila excavations tell us about the lives of people who lived here hundreds of years ago. The earliest houses belonged to about the fourth century B.C.. They were made of sun-dried bricks as well as bricks baked in kilns. Houses had drains which carried waste water into soak pits dug into the ground. Many terracotta figurines of humans and animals were found. So was a special kind of shiny pottery that archaeologists call Northern Black Polished Ware (NBP for short). People had started using copper coins for buying and selling things. Traders used seals to mark their bales of merchandise.

Between the second century B.C. and third century A.D., the settlement at the Purana Qila gradually became more and more prosperous. Houses were now made of stone set in mud. House floors were usually made of pressed earth, but were sometimes paved with mud bricks. Plenty of pottery and terracotta figurines and plaques of this period were found. Some may have been toys, others may have had a religious significance. Lots of seals and coins were discovered. If we look at all the evidence together, we get the picture of a busy town, bustling with activity.

In about the fourth century A.D., the settlement at the Purana Qila seems to have started to decline. Houses were made out of reused bricks of earlier buildings. Many centuries later, in the tenth century, a fortification wall was built around the settlement. Other finds of this later period include the remains of houses made out of brick and rubble, pottery. An interesting find was a jug containing bells, *ghunghroos* (anklets with bells), and various objects of copper.

In the sixteenth century, the Mughal king Humayun built his fort at this place. Today, we can see the fort, but the older history of this site is buried deep underground, invisible.

CHANDRAKETUGARH

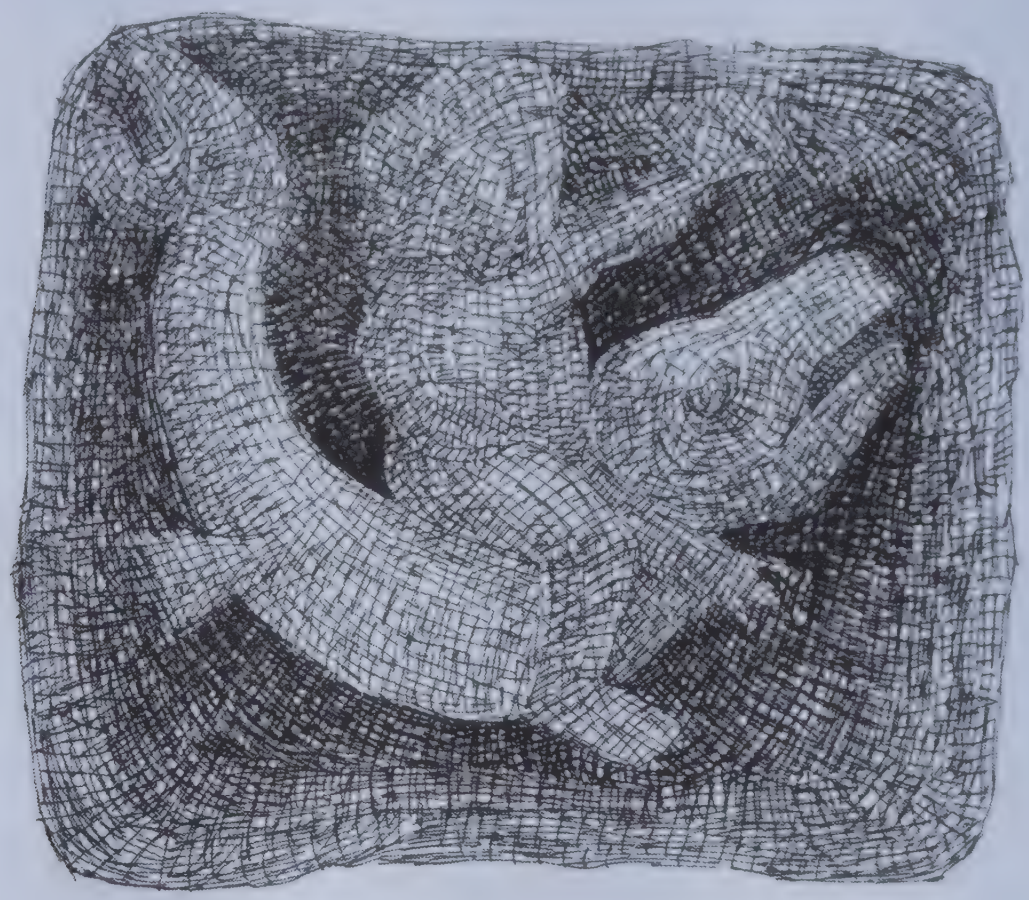
Chandraketugarh in the delta of the Ganga river is the site of one of the oldest cities in Bengal. The site is huge and covers several modern villages. We don't know what this place was called in ancient times. Maybe this is the place that the ancient Greek and Roman writers called 'Gangaridae.' Considering how big and impressive the site is, it seems that the capital of a kingdom may have been located here. But we do not know the name of the kings who ruled here in the earliest period.

Apart from Chandraketugarh, there are several other ancient city sites that have been found in modern West Bengal and Bangla Desh. These include Mahasthangarh, Wari Bateshwar, Kotasur, Mangalkot, Pokharna, Bangarh and Tamluk. Some of these cities such as Mahasthangarh (known as Pundranagara in olden times) were the capitals of ancient kingdoms. Others such as Tamluk (known as Tamralipti in ancient times) were important ports. What about Chandraketugarh? Chandraketugarh may have been both the capital of an ancient kingdom *and* an important trading place. At that time, it was connected to the mighty Ganga by a river known as the Vidyadhari river. This connected it to the trade that was carried on up and down the Ganga valley and also to the Bay of Bengal.

The first archaeologist visited Chandraketugarh in 1907. But it was first excavated many years later, between 1955-67. These excavations were small-scale, and full reports were never published. In fact, most of what we know about Chandraketugarh comes from villagers who live in the area. Over the

Chandraketugarh: This terracotta plaque shows a man dancing.
Look at the position of his hands and feet.

years, they have carefully collected and preserved various kinds of ancient artifacts – pottery, terracotta and stone sculptures, beads, coins, etc. — that they found here. This just goes to show that it is not just the job of archaeologists to take care of archaeological treasures. Ordinary people can also play an important part.



Chandraketugarh: This terracotta plaque shows an unusual scene. A man seems to be riding on the back of an alligator-like creature.

Like many ancient sites, Chandraketugarh has a very long history. The city may have been built in about the 3rd century B.C., but it continued to grow and change till the 13th century A.D.. A bit of simple arithmetic tells us that the history of Chandraketugarh covers about sixteen hundred years! It is difficult to figure out just how big the ancient city was. One part of it was surrounded by a fortress wall. This is probably where the rulers and other important people lived. There was another part which was not protected by a wall, and ordinary people, farmers, craftspersons, traders and others probably lived here. Very few structures of the early periods have been found, but it seems that people lived in houses made of mud, bamboo, and wood. Some wells made of terracotta rings and some drain pipes have also been found.

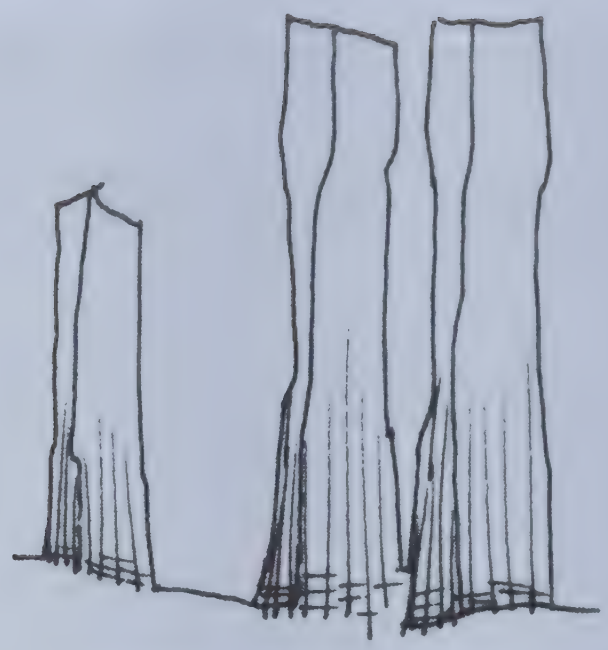
Many carved ivory and bone objects and a few specimens of wood carvings have also been found at Chandraketugarh. Craftsmen skilled in making these things must have lived here. But the thing that Chandraketugarh is most famous for is its terracotta sculptures. Terracotta is a reddish-brown clay. Stone is not easily available in the delta area, so it is not surprising that people who lived here preferred to use clay, which was available in plenty. But what is unusual about the Chandraketugarh terracotta sculptures is their very large numbers,

their great variety, and the fact that many of them are extremely well-made and very beautiful.

How do we know which terracotta sculptures are old and which ones were made recently?

Experts who have spent a lot of time studying terracottas can tell from their style which part of the country they were made in and how old they are. But experts can also sometimes be fooled. If someone wants to find out how old a terracotta piece is, it can be tested in a special laboratory by using a special technique called thermoluminiscence dating. This method can be used to date things like pottery and terracotta sculptures that have been heated a lot when they were made. By using this method, experts can find out which pieces are really old, and which one are fakes.

It seems that Chandraketugarh was an important town of ancient Bengal where skilled craftsmen made terracottas on a large scale. These may have also been an important item of trade. What were the terracottas used for? Some of them may have been statues of gods and goddesses. They may have been kept in houses and people may have worshipped them. Some of them, such as the carts and rattles, must have been toys with which children played. Many of the Chandraketugarh terracottas have ended up in museums in India and abroad, and many of them are a part of private collections. Things that were centuries ago a part of the every-day life of the people of Chandraketugarh have now become items that are collected and put on display!



SISUPALGARH

Sisupalgarh is an ancient site in Orissa, not far from Bhubaneswar. The most striking thing about the site is the impressive mud fort that surrounded and protected the old town. Outside the fort wall was a moat filled with water which gave extra protection against enemies or intruders.

People lived at Sisupalgarh from the beginning of the 3rd century B.C. up to the middle of the fourth century A.D.. The settlement was not fortified in the beginning. We don't know much about the life of the people who lived at Sisupalgarh in the early phase (archaeologists call this Period I). No remains of buildings of this period have been found. All that we know is that people used simple and plain pottery, mostly grey or red in colour.

The settlement at Sisupalgarh gradually became bigger and bigger. The most prosperous period was between c. 200 B.C. to c. 100 A.D. (this is the first part of Period II). The huge mud walls around the town were built in around the beginning of the 2nd century B.C.. The walls were a little over 10 metres wide at the base and over 8 metres high. There were huge, grand gateways that led into the town. The walls had guard-rooms, passages and watch towers. Later, the mud walls were strengthened by adding a layer of stone gravel on the top. Still later, two brick walls were built on the top of this, and the space between them was filled with mud and stone. The ramparts of the wall and the gateways were repaired several times, whenever the need arose.

The town was well-planned. It measured about 1 km on each side and was more or less square in shape. Houses were made of blocks of stones or bricks.

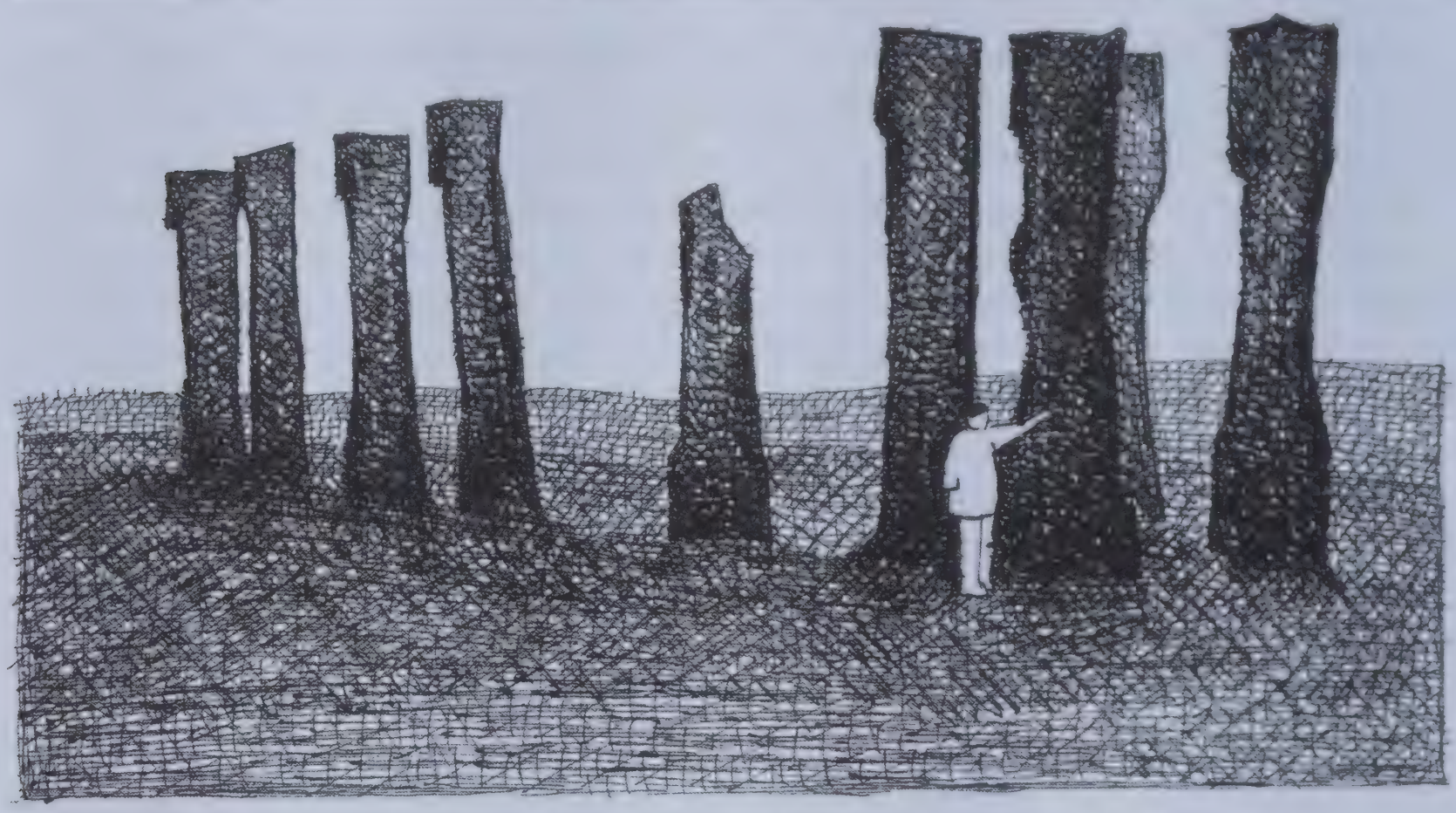
Each house had two or three rooms, and a large verandah in front. Streets were layed out in a systematic way, crossing each other at right angles. Archaeologists found marks left by the wheels of carts on the streets. In the middle of the town were the remains of a large pillared hall. This must have been a public meeting place where people gathered on special occasions. The potters made sophisticated pottery of various kinds, some with a bright red polished look. A black and red pottery was also made and used. Terracotta ear-rings, iron implements and weapons (including nails, spikes, sickles, daggers, etc.) and beads of semi-precious stone have also found.

In about 100 A.D. (this is the *later* part of Period II), the town of Sisupalgarh began to decline. The pottery belonging to this period is less impressive, and we mostly find a coarse and dull-looking red pottery with crude decorations. The other finds from this period include glass bangles, two coins (one of silver, one copper) and many earrings made of terracotta. Certain clay medallions (known as bullae) have a design of animals with human heads. This design is very similar to one found on Roman coins. This shows that there was some trade contact with the Romans.

In the last phase of the history of the town (Period III, c. 200-350 A.D.), the pottery was red or yellowish red, coarse and not too well-made. Coins and a large number of terracotta ear ornaments were found at levels belonging to this period. Two coin moulds were also found, showing that coins were minted here. But the overall picture that we get is of a town much less prosperous than it had been some centuries before.

The evidence from the site of Sisupalgarh shows that this used to be an important town. Maybe it was the capital of a kingdom or headquarters of a province. But whose kingdom? Whose headquarters? There are some other important sites not far from Sisupalgarh. They may have had an important connection with it.

Some historians think that Sisupalgarh is the same as a place called Tosali mentioned in inscriptions of the Mauryan emperor Ashoka. We know that Ashoka fought a war against the kingdom of Kalinga (an ancient name for the Orissa area). He won this war and Kalinga became part of his already huge empire. Just about 3 miles away from Sisupalgarh are the Dhauli hills, where inscriptions of the Mauryan emperor Ashoka are carved on a large rock. The inscriptions talk, like most of Ashoka's inscriptions, of how people should try to live a good life. They also mention a place called Tosali, which seems to have been one of the headquarters of the Mauryan empire in Kalinga. Is it possible that Tosali was located at Sisupalgarh? Perhaps, but we don't know for sure.



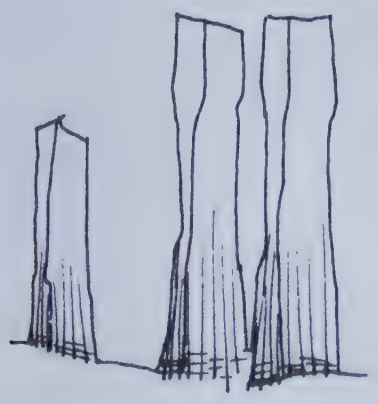
Sisupalgarh: A grand building must have once stood at this place.
Today, there are only some pillars left.

Another possibility is that Sisupalgarh was known as Kalinganagara in ancient times and was the capital of a great king named Kharavela. Kharavela probably lived and ruled in the first century B.C. or first century A.D. About 6 miles to the north-west of the Sisupalgarh are the Udayagiri and Khandagiri hills. Here, there are a large number of caves cut out of the rocks in the hills, where Jain monks lived. An inscription of Kharavela has been found in the Udayagiri hills nearby. It is inscribed on a rock hanging over a cave called the Hathigumpha.

What does the Hathigumpha inscription tell us about Kharavela?

It tells us that Kharavela belonged to a dynasty called the Chedi or Mahameghavahana dynasty. He followed the teachings of the Jain saints. The inscription tells us about the childhood and education of Kharvela, and then gives a year-by-year account of his achievements during the first thirteen years of his reign. The inscription says that this king rebuilt the gates and walls of his capital city when it was hit by a terrible cyclone. This is interesting because we can connect this with evidence of the repairs of the fort walls of Sisupalgarh. There are certain scenes carved on the walls of the Ranigumpha and Manchapuri caves in the Udayagiri hills. These seem to be scenes from the life of Kharavela.

We are not sure whether the site of Sisupalgarh was really Tosali, the capital of one of the provinces of the Mauryan empire, whether it was Kalinganagara, the capital of Kharavela, or whether it had some other name. But what *is* certain is that whatever it may have been called in ancient times, one of the oldest towns of Orissa was located here, at Sisupalgarh.

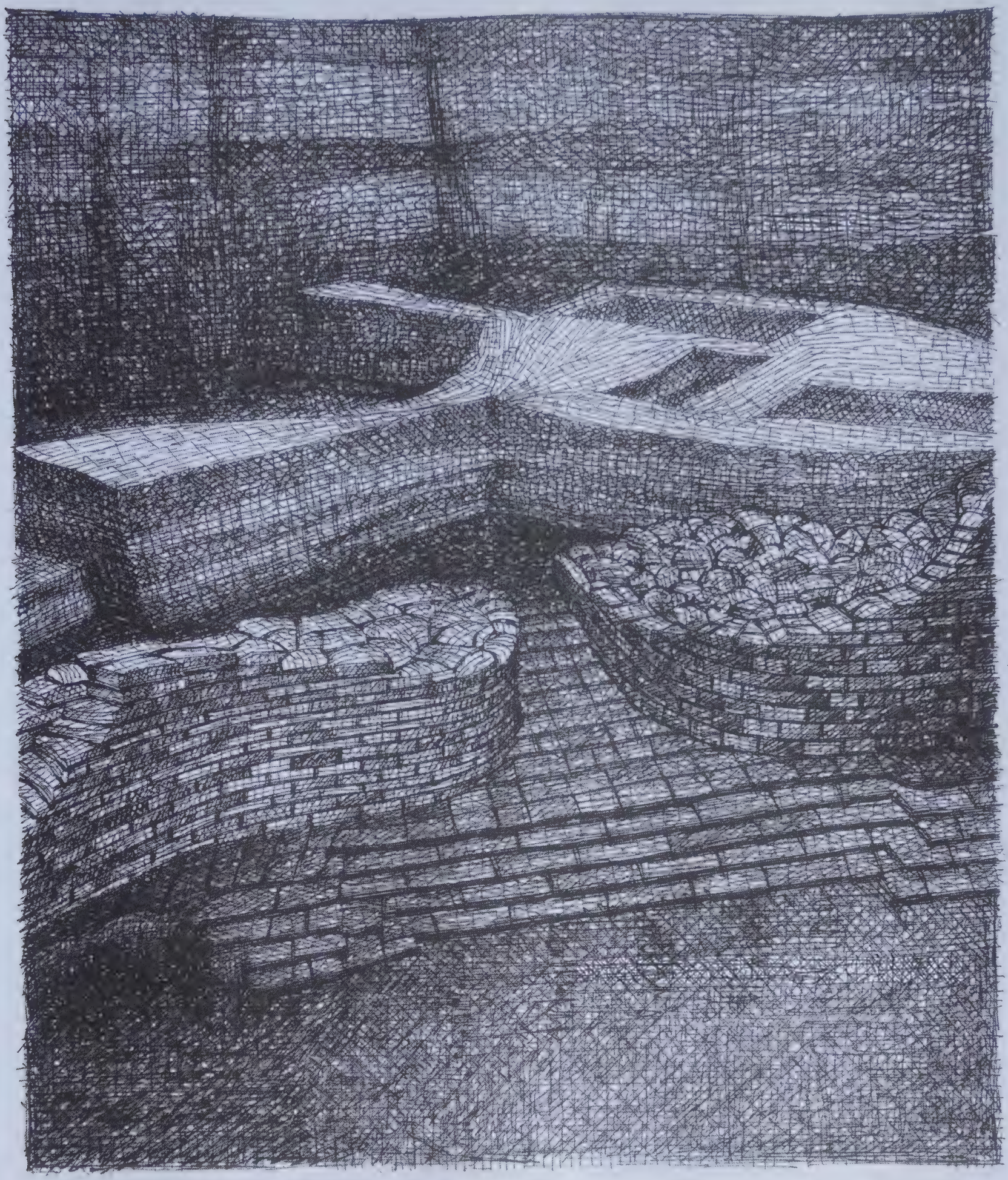


KAVERIPATTINAM

Kaveripattinam is a small, quiet fishermen's village on the eastern coast of Tamil Nadu. It is located at the point where the Kaveri river flows into the Bay of Bengal. If you visited it today, you would find it difficult to imagine that there was once a bustling port of trade here.

Kaveripattinam was also known in olden days by other names such as Kaveripumpattinam, Pumpuhar, or simply Puhar. The Greek and Roman writers called it Khaberis or Camara. Poems written long ago in the Tamil language describe the merchants from many countries speaking different languages living in friendship in this city, going about their business of buying and selling goods. The poems tell us that handsome horses arrived here by sea, gold and precious gems came from the northern mountains, sandalwood from the western hills, pearls from the southern sea, coral from the western sea, and many other things came from places like the Ganga valley, Ceylon, and Burma.

According to old Tamil literature, the city of Kaveripattinam had two parts, the living area and the harbour. Many rich people lived in the residential area. There were houses, eating places, gardens, halls for meeting, bathing areas, tanks and temples. The harbour where boats docked was on the sea-coast. Here there were godowns for storing merchandise and offices of the customs officials with the tiger emblem on the doors. The tiger was the emblem of the Chola kings. Apart from the harbour, there was also a fishermen's colony on the sea-shore.



Look at the intricate construction of the inlet channel of a reservoir discovered at Vanagiri near Kaveripattinam.

What did people buy and sell in the markets of Kaveripattinam?

The old Tamil books tell us that the markets were set up in the open area between the eastern and western part of the city. People came here to buy the sorts of things that they used in their day-to-day life, like rice, salt and cloth. We also hear in the Tamil poems of people buying and selling flowers, garlands, perfumes, betel leaf, jewellery, and things made of copper and bronze.

Kings were eager to buy some of the luxury items that came into the port from other lands. They also levied customs duties on the trade goods. Because trade meant profits not only for the traders but also for the rulers, the kings saw to it that the markets were guarded by royal officials. Some merchants operated independently, others were organized into guilds. Merchants brought goods from the Roman Empire, West Asia, China, South-east Asia, and Sri Lanka. These included cloth and wine (from the Mediterranean countries), silk (from China), and horses (from Arabia). The Indian goods that were exported from Kaveripattinam included spices such as pepper and cardamom, pearls, jewels, and fine cloth.

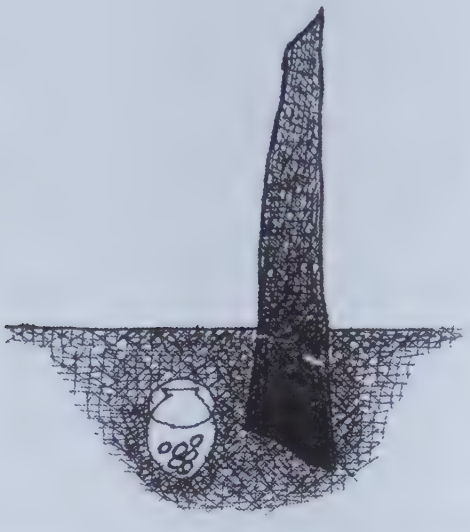
It is always interesting to compare what literature says about a place with what is found there in excavations. Excavations were carried out at several places in and around Kaveripattinam. They gave information about the history of the site from the third century B.C. to the twelfth century A.D.. During the rule of the early Chola kings, a big dam was built not far from the Chola capital of Uraiyur and the water of the lower part of the Kaveri river was diverted to form several canals. This prevented the river from flooding too much even in the monsoon season. It also distributed the water of the river for irrigating the farmers' fields. Over time, hundreds of villages and rice fields sprang up on the fertile banks of the many streams in the Kaveri delta.

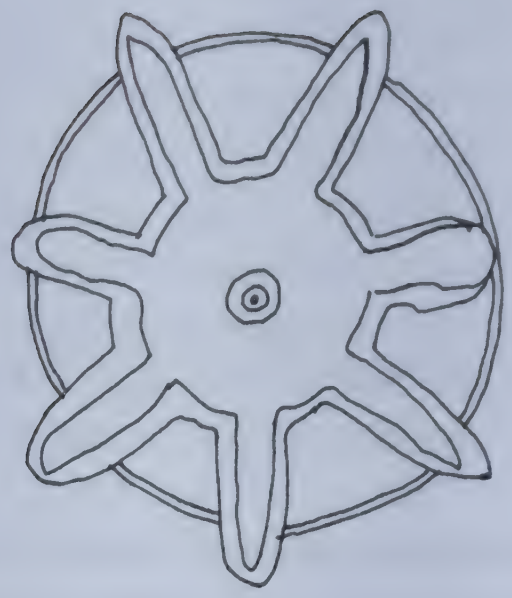
The Kaveripattinam excavations showed how the small village port with a simple dockyard made of wood and poles grew into a large and impressive port city. Ancient remains were also found in many other villages in the area, which were also involved in the trade activities. At Vanagiri village nearby, archaeologists found the remains of an artificially-made channel that drew water from the Kaveri into a reservoir for irrigation purposes. This was probably built in the early centuries A.D.. Brick platforms for landing boats were found at Kilayur. Boats were anchored here with by using wooden pegs. At Pallavanesvaram there was there was a Buddhist temple and monastery built

in about the 3rd century A.D.. Kaveripattinam was also an important port in the later period, between c. 900-1200 A.D.. Lots of coins of the Chola kings who ruled over this area at that time have been found here.

Archaeologists found many kinds of ancient artefacts at Kaveripattinam. These included pottery of different kinds and jewellery made of beads and terracotta. There were copper objects like vessels, rings, bangles, wires and a rattle. There were stone objects like pestles for grinding grain. There were iron artefacts like knives and nails. Coins of different kinds were also found, some belonging to the kings who ruled here, and some Roman coins brought here by traders.

There is a legend that Kaveripattinam was submerged into the sea because of the wickedness of a Chola king. The legend is just a story, but it is possible that parts of the city of Kaveripattinam were at some point of time covered with sea water due to changes in land or sea levels. Underwater archaeology can help us find out if some parts of the old port-city of Kaveripattinam are hidden under the waters of the ocean.

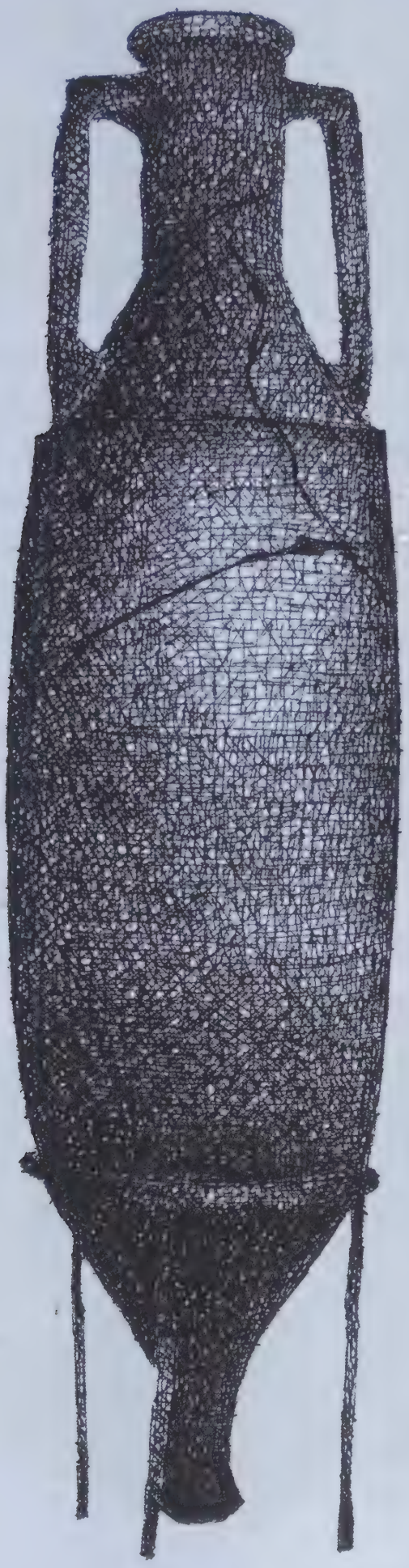




ARIKAMEDU

Some time between 1768-71, a French astronomer named Guillume Le Gentil visited Pondicherry on the south-eastern coast (known as the Coromandel coast) of India. He noticed some huge bricks, ruined walls and remains of old wells at a place called Arikamedu, just 4 km away from Pondicherry. Arikamedu was located on the right bank of the river Ariyankuppam, just as the river enters the Bay of Bengal. Le Gentil was convinced that these were the ruins of a large, ancient village or even a town. He was right, but it was a very long time before archaeologists realized the importance of this site.

Arikamedu was first excavated in the 1940's. In the northern part of the site archaeologists found the remains of what seemed to be a brick warehouse where trade goods were stored. In the southern part, they found two courtyards, along with tanks and drains. They thought that this might have been a place where fine muslin cloth was dyed and prepared for export. Though most of the pottery that was found was Indian, there were certain kinds of foreign pottery that clearly came from the Mediterranean countries of Europe. One was a red pottery with a decorated surface, known as terra sigillata. The other is called amphora. These are jars with a pink body and a yellow slip or coating, and two handles. Archaeologists also found lots of beads made of gold, glass, and semi-precious stones (some with Greek or Roman designs), Roman lamps, and Roman glass items at the site.

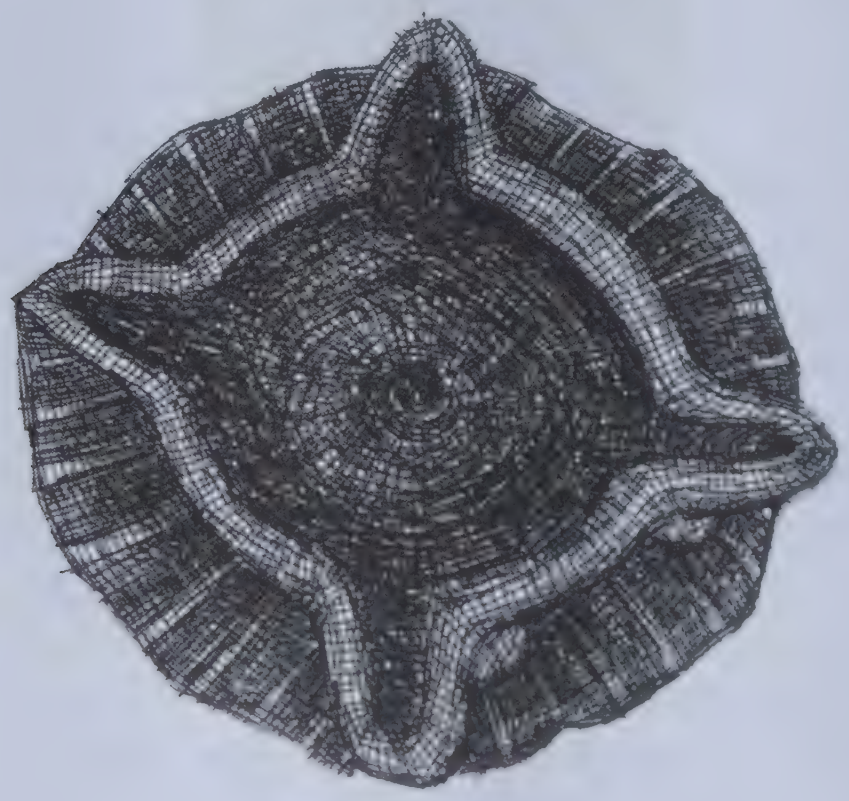


Arikamedu: The stand helps balance this elegant amphora jar.

What did the foreign jars that came to Arikamedu have inside them? Who were these things meant for?

These sorts of jars were used to hold wine, sauce or olive oil. These things might have been shipped to Arikamedu for foreign traders who lived here and missed the kind of things they were used to at home. But things like wine could just as well have been bought by well-to-do Indians.

Ancient Tamil poems talk in several places about people they call "yavanas." They talk of yavana merchants bringing in merchandise like fine lamps, gold, and wine and buying cargoes of pepper at the ports of South India. At this time, the word yavana was a general word used for foreigners such as Greeks, Romans, and West Asians. There are also some old books in Greek and Latin that tell us about trade between the Roman empire and India between about 200 B.C. and 200 A.D.. They give us the names of ports and lists of goods. Hundreds of Roman gold coins, most of them belonging to the reigns of the Roman emperors Augustus and Tiberius, have been found at many places in India, mostly in the south. All these clues tell us that during this period, there was brisk trade going on between the Roman empire and India.



Many clay lamps of this kind were found at Arikamedu. This one has place for four wicks.

It all tied in neatly. The Tamil poems, the Latin books and the archaeological evidence seemed to be talking about the same sort of thing. Archaeologists were convinced that Arikamedu must have been one of the one of the places where the yavanas of the Tamil poems lived and traded. This must also have been one of many trading centers where the Romans and Indians carried out business with each other between the 1st century B.C. and the 2nd century A.D.. Some archaeologists identified Arikamedu with a place called Poduke, mentioned in old Latin books.

What were the items of trade between the Roman empire and India? The imports from the Mediterranean lands that came to ports like Arikamedu included wine, bowls and lamps made of clay, glass beads and bowls, and maybe gems. Indian goods such as cloth and spices such as pepper were in demand in the west. Going by the evidence from Arikamedu, other things exported from this port probably included beads of semi-precious stones and glass, and maybe shell bangles. There was also a brisk transit trade going on in items such as silk from China and spices from south-east Asia. These first came to the Indian ports and then were shipped on to the west. Traders seem to have been familiar with the sea route from the Indian ports to the Mediterranean Sea via the Red Sea.

Arikamedu was excavated again recently between 1989 and 1992. These excavations led to new discoveries and made it necessary to change some of the earlier conclusions. The earlier archaeologists had thought that the settlement at Arikamedu had come up when the trade with the Roman empire started in the 1st century B.C.. The new excavations suggested that a fairly well-established settlement already existed here for some time *before* this trade started. But once the trade started, the settlement grew bigger and more prosperous.

The earlier archaeologists had thought that the northern part of Arikamedu was the port area and the southern part the industrial part, i.e. the area where the bead-making and textile work went on. The recent excavations suggest that the activities at the site were not so neatly divided. Also, some people, probably merchants and sailors, actually lived in both these areas. More foreign pottery was found in the northernmost part of Arikamedu, so this may have been where some foreigners lived. The tank-like structures found in the southern area were earlier understood as places where muslin cloth was dyed. Now it was suggested that they had nothing to do with dying cloth and may have been enclosures for storing food or some other kinds of goods.

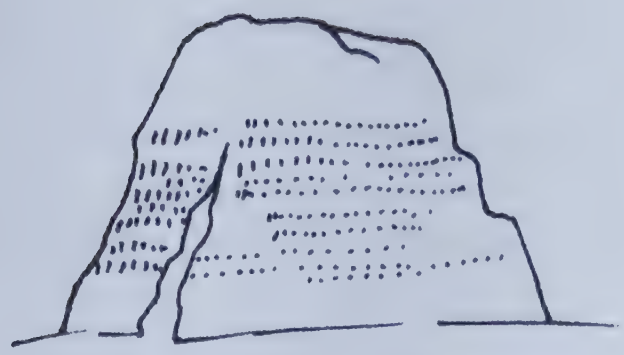
Archaeologists are no longer sure about whether traders from the Roman empire actually lived at Arikamedu in large numbers or not. Do the foreign

items found at Arikamedu point to foreigners living here, or do they simply point to items imported from foreign lands for local inhabitants? It is however clear that apart from Romans and Indians, there were many other people such as Arabs and Greeks from Egypt who were involved in the Indo-Roman trade.

Archaeologists used to think that the Indian trade with the Roman empire came to an end in the 2nd century A.D., and that the settlement of Arikamedu was abandoned when this happened. But the recent excavations show that there was some trade between India and the Mediterranean lands between the 3rd and the 7th centuries A.D., although it was much less than before.

Coins of the Chola kings, and clay lamps made in the medieval period, and remains of even later periods show that people lived at Arikamedu, off and on, till modern times. Pieces of Chinese and east Asian pottery that were found at the site suggest that Arikamedu continued to be an important trading center, and that after the ninth century, the people were trading with other lands. Apart from the foreign trade, Arikamedu must also have been involved in the trade that was carried on up and down the Indian coasts as well.

As you can see, when a site is excavated again, the new evidence can give us a different picture of its history. There are still many unanswered questions about Arikamedu. For example, while we now know quite a bit about the importance of this site in the trade between India and the Roman empire, we need to find out more about the connections between Arikamedu and other ports and towns of South India. Maybe further excavations at Arikamedu will soon give us answers to these and other questions.

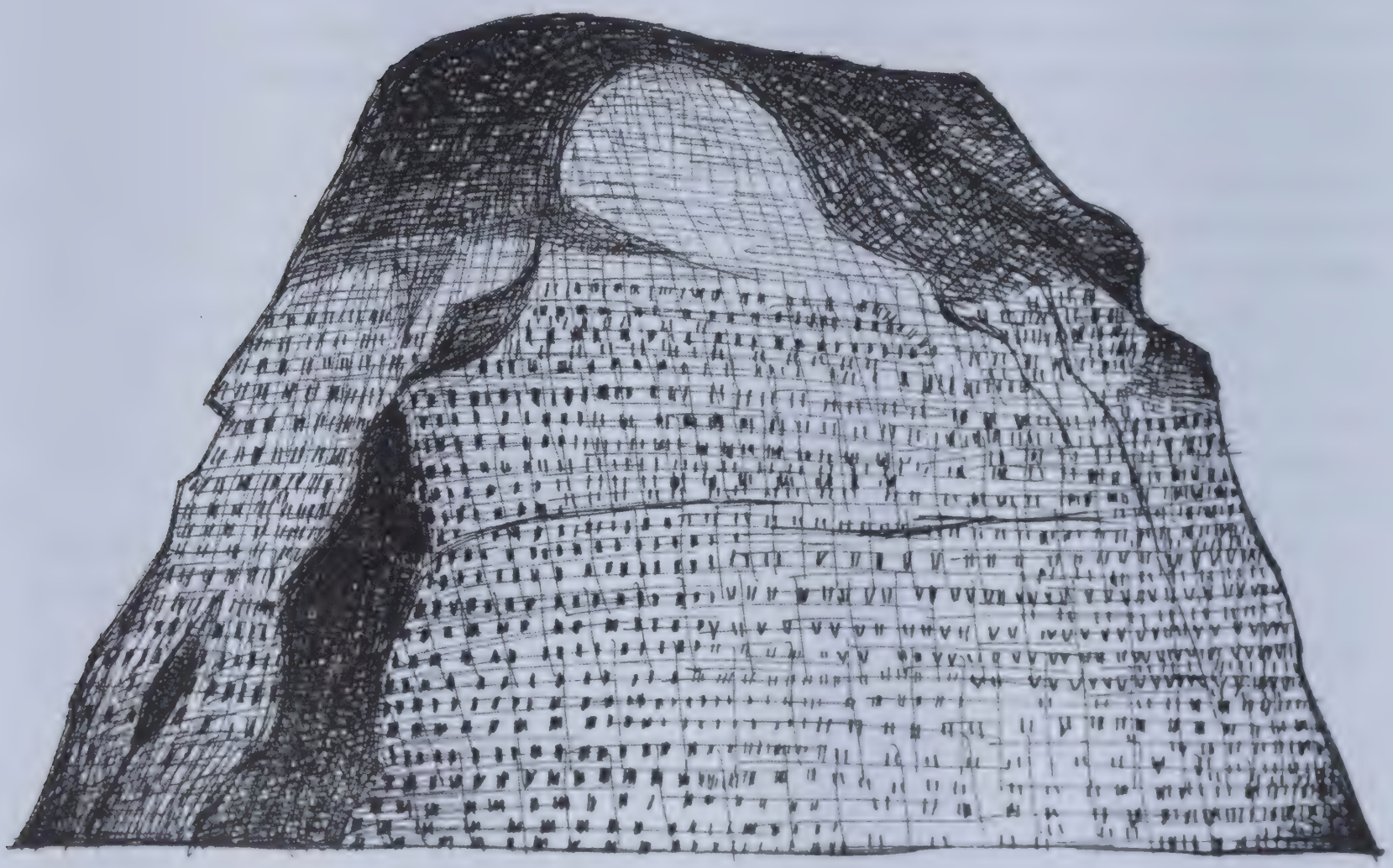


KALSI

If you are driving down from Dehradun towards the hill-station of Chakrata in the new state of Uttaranchal, as you get close to the hills you will pass a small village named Kalsi. There is a cluster of shops on the main road. Ask the shop-keepers where the "old rock" is, and they will give you directions. A small path winds downwards into the village, past a few small houses. Suddenly, you will find yourself on the banks of the Yamuna river, behind which you will see the mountains rise into the sky. Close to the river is a covered shed, and inside the shed is a huge rock, about 10 ft long, 10 ft wide and about 8 ft thick at the base. The rock has a lot of things written over it, in a writing that you will not be able to read, no matter how hard you try. What does it say? Who was responsible for having this inscription inscribed here? The Kalsi rock has on it a set of 14 edicts or inscriptions of the Mauryan emperor Ashoka who ruled from 269-232 B.C.. The writing is known as Brahmi and the language of these inscriptions is known as Prakrit.

Ashoka inherited a very large empire from his father Chandragupta. It stretched up to Afghanistan in the north and included most of southern India. Ashoka fought only one war. This was the war against Kalinga in Orissa. Ashoka won the war, but he was horrified by the death and destruction that he had caused. We know that at some point of time Ashoka became a devoted follower of the Buddha's teaching. One of the things that the Buddha taught people was that they should not harm any living thing. So it is not surprising that Ashoka started feeling so strongly against violence and war.

Ashoka had some very definite ideas about the way people should live their lives, and he wanted to try to spread these ideas to his people. He decided to have inscriptions inscribed in different parts of his empire, in the beginning on rocks, and later on pillars. Most of these inscriptions talked about 'dhamma,' that is how people could lead a good life. They talked about things like honesty, simplicity, generosity, and kindness to people and animals. There are many inscriptions of ancient kings from many parts of the world. Many of them describe the conquests and victories of these kings. Ashoka is the only king in the world who does not boast about such things in his inscriptions. In fact he describes war as a terrible thing, as something that causes sorrow to countless people. This is what makes Ashoka and his inscriptions special.



The massive Kalsi rock with Ashoka's inscriptions.

Why were the Ashokan inscriptions inscribed in the particular places they were inscribed?

Ashoka must have wanted people to stop, see and read his inscriptions or to have them read out to them. The inscriptions were inscribed on rocks and pillars at places along the important trade routes and pilgrimage routes. Some of them were inscribed near Buddhist monasteries. We don't know exactly how many rock or pillar inscriptions there originally were, because some of them must have got destroyed over time. Others may still be discovered.

Kalsi is located on the banks of the Yamuna river, near the place where the Yamuna meets the Tons river. It lies on the route that leads to Jamnotri, the place from where the Yamuna river emerges from the mountains. This is an old pilgrim route, and many pilgrims must have moved along this route in ancient times. We can imagine some of them pausing at the Kalsi rock, perhaps to take a rest on their long, tiring journey. Those who knew how to read would have read Ashoka's inscriptions, and perhaps read them out to their companions.

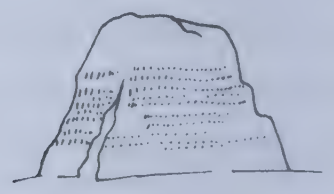
There are a few other clues that help us understand the location of the Ashokan rock edits at Kalsi. A number of interesting things were found in the area around the rock. Broken pieces of pillars and railings showed that there used to be some old buildings here. Some sculptures and pieces of pottery were also found. These discoveries show that there was a settlement here long ago, probably at the time to which the inscriptions belong.

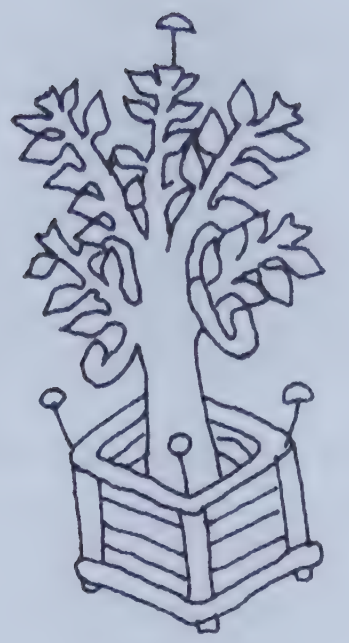
We should remember that not many of Ashoka's subjects would have known how to read. Ashoka made a lot of effort to try to spread his ideas by making his officials go around the countryside and talking to people. He introduced a special group of officials whose job it was to travel around the empire spreading the teaching of dhamma. Ashoka himself toured the country to spread his message as well.

On the opposite side of the river from Kalsi, just a little further down, is a very different kind of ancient site. There is a place called Jagatgram in the middle of a thick orchard of mango trees. From here too you can see the river and mountains beyond it. Archaeologists did an excavation at Jagatgram, and discovered a lot of bricks arranged in a strange way. They also found some inscriptions that said that a king named Shilavarman had performed several ashvamedha sacrifices at this place. The ashvamedha or the horse sacrifice was

a ceremony performed by some ancient kings to show their power. The writing of the inscriptions belongs to the 3rd century A.D..

Just think of the strange coincidence! On one side of the Yamuna river at Kalsi is Ashoka's message of peace and gentleness. On the other side of the river at Jagatgram is the place where Shilavarman celebrated his military victories. There is another difference — Ashoka is still famous for what he believed in, while very few people today have ever heard of Shilavarman.



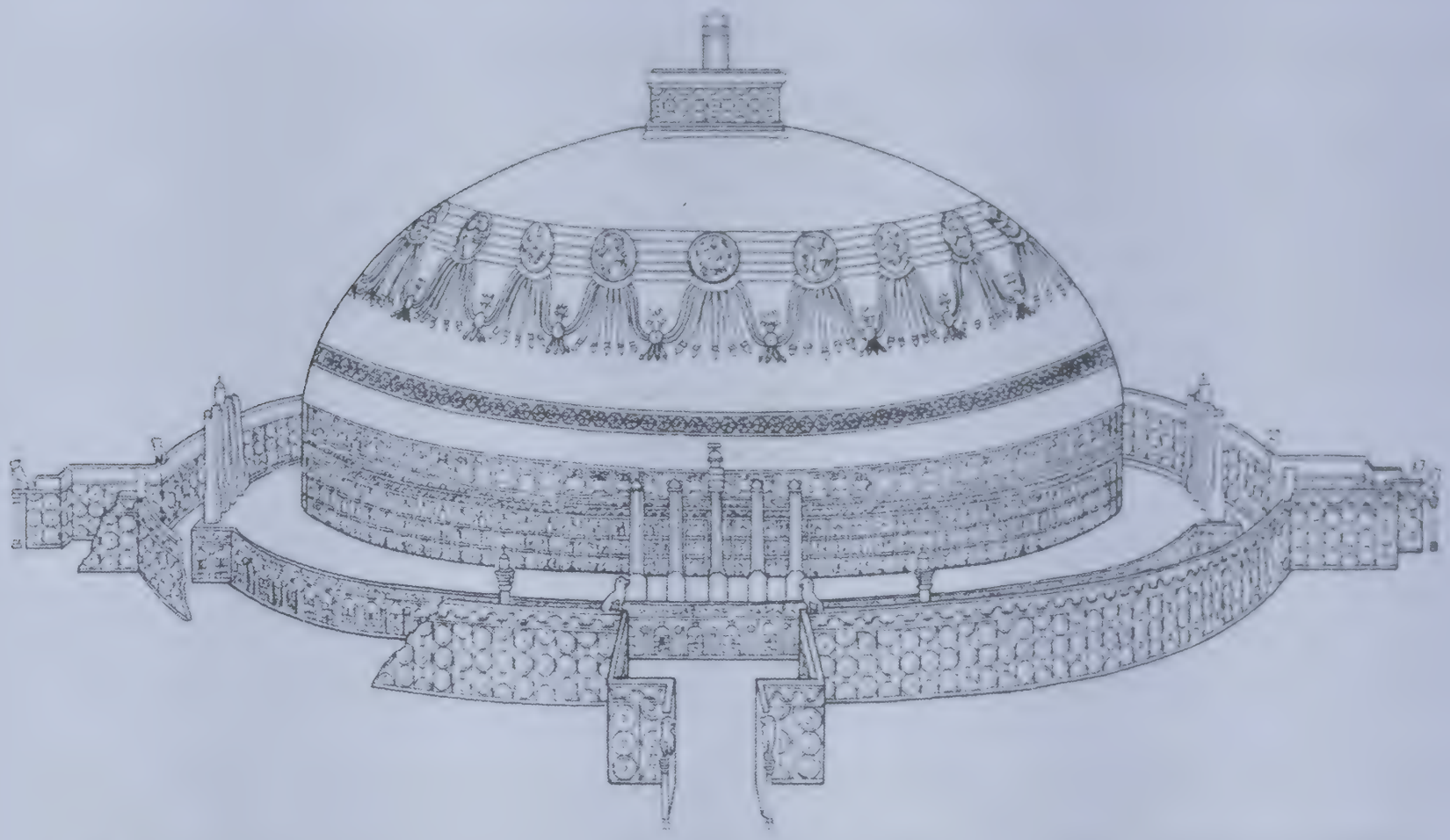


AMARAVATI

In 1796 a certain raja decided to build a new capital at a place called Amareswaram. While workers were busy digging at this place, their spades hit some bricks and some white stone pieces which had carvings on them. They had accidentally hit on an ancient Buddhist stupa, the great stupa of Amaravati. The site of Amaravati lies in the valley of the Krishna river in the modern state of Andhra Pradesh.

Stupas were part of the Buddhist religion. They consisted of a dome, usually shaped like a semi-circle or hemisphere. The structure was not hollow like a dome. It was solid, either filled with brick or mud. Very often relics of important monks were put into boxes and placed in the middle of these structures. The stupas were surrounded by railings and had four gateways. People came here to pray and worship. As Buddhism became more and more popular, many stupas were built all over India. The emperor Ashoka, who had deep faith in the teaching of Gautama Buddha, played an important role in building many stupas and monasteries. A broken part of a stone inscription which may belong to the time of the Mauryan king Ashoka has also been found at Amaravati. This suggests that the stupa was there as early as the third century B.C.. Maybe Ashoka was responsible for having it built in the first place.

Most of the grandest stupas were located outside big cities. This allowed the monks enough peace and privacy, and at the same time did not cut them off completely from the people who lived in the cities. The site of Amaravati is just next door to a place called Dharanikota. Dharanikota is the site of ancient



This is what the magnificent Amaravati stupa must have looked like in ancient times.

Dhanyakataka which was the capital of the kingdom of the Satavahana kings who ruled in the Deccan around the 1st to the 3rd centuries A.D.. It also seems to have been an important place before and long after the Satavahana kings. 'Dhanyakataka' means town of rice or paddy. In fact, the Krishna valley in which it was located was a very important rice producing area. It was also an important center of trade with other parts of India and with foreign countries. The Amaravati stupa and monastery seem to have lasted until the 14th century A.D..

Like other important stupa sites, Amaravati also grew and changed. This is in a way similar to the way in which people sometimes repair and renovate their houses or larger buildings today. In the beginning, the stupa must have been quite plain and simple. Over time, stone pillars and railings were added. Eventually, the surface of the stupa was covered with beautifully carved white limestone slabs, which looked just like marble. The railing around the stupa and the four gateways were also decorated with carved limestone slabs. Some of the carvings and sculptures were purely decorative. Others had a deeper meaning and tried to tell the story of the Buddha's life. The railings and gateways of the stupa had many inscriptions carved on them.

What do the railing and the gateway inscriptions of the Amaravati stupa tell us about?

These inscriptions give us the names of the many people who gave the money for this stupa-monastery complex to be built. These included whole villages, landowners, craftsmen, traders, and members of royal families. It is interesting to note that a lot of the gifts to the stupa were made by women.

The Amaravati stupa must have been a magnificent sight in ancient times, when monks lived and studied here. Many people came here to pray or worship, sometimes travelling long distances from different parts of the country. If you visit some ancient stupa sites like Sanchi in Madhya Pradesh you can get an idea of what the place must have been like in the olden days. But if you visit Amaravati today, you will be disappointed. The reason for this is that over the years after this site was discovered in the 18th century, most of the beautiful carved stones of the Amaravati stupa steadily disappeared from the site. Some of the stones were used up in the making of newer buildings. But as more and more beautiful sculpted stones were discovered by archaeologists in excavations, many of them were taken away to be displayed in museums in India and abroad. Sometimes when sites are discovered, people take steps to take care of them and to preserve what is there on the spot. But sometimes, the discovery of a site can lead to its destruction and virtual disappearance. This is what happened at Amaravati.

Today, all that remains of the Amaravati stupa is a small mound of earth with a few stone slabs scattered about.

NALANDA

In the seventh century A.D., a Chinese traveler named Hsuan Tsang set out on a journey from China to India. Hsuan Tsang was no ordinary tourist. He was a monk and he came to India on a serious mission. He wanted to visit various places of Buddhist pilgrimage and he wanted to find and collect manuscripts of religious books that he could then take home. Hsuan Tsang ended up spending 14 long years travelling all over India. He wrote a book about his travels in India. The book is called the Si-Yu-Ki.

In his book, Hsuan Tsang wrote about many Buddhist monasteries he visited in India. One of the most famous ones was at Nalanda, where he spent quite a bit of time. Nalanda was a monastery as well as a sort of Buddhist university where students came from far and wide. A monastery is a place where monks live. The subjects that were taught here included Buddhist philosophy, logic, grammar, medicine and the Vedas. Many famous Buddhist thinkers and teachers taught and lived at Nalanda. There were no fixed timings for classes at Nalanda. Teachers and students could go on discussing things from morning to night. Hsuan Tsang tells us that discipline in this university was strict, and students had to be careful to observe the rules.

A decorated vase with flowers spilling out of it was one of the favourite designs of the Amaravati sculptors.

How did a person get admission to the university of Nalanda?

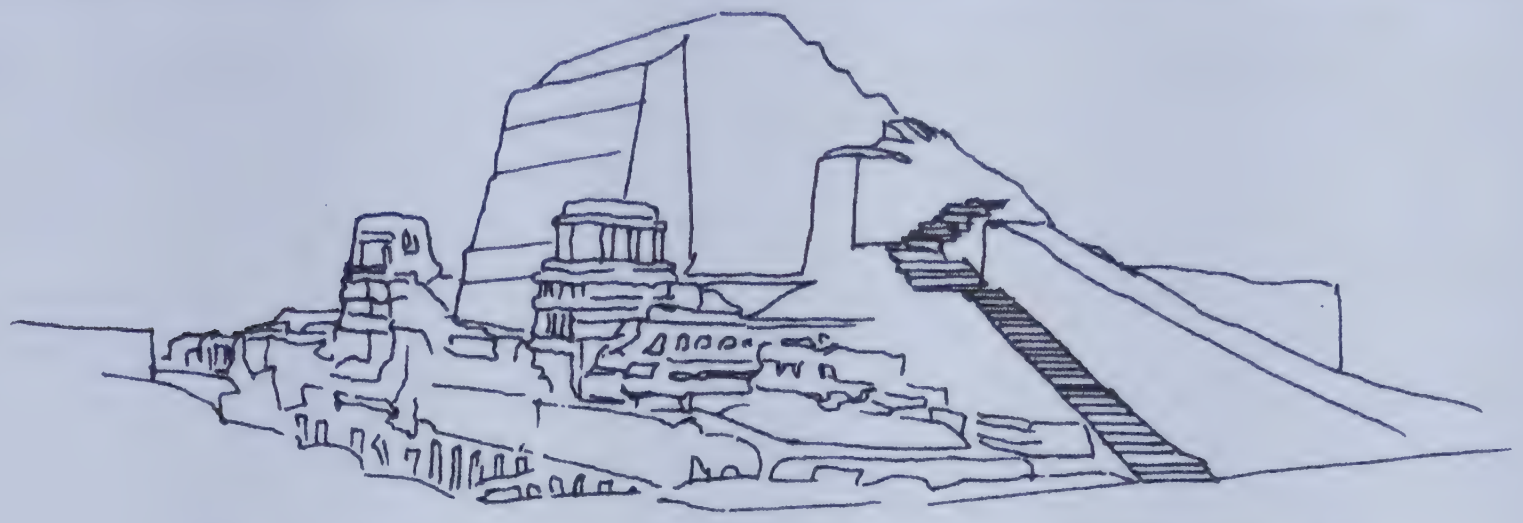
There were no forms to fill out, no school-leaving marks to be considered, as happens today. Students who wanted to join the university were interviewed by senior monks. They had to prove that they were serious and knowledgeable, that they were capable and keen to learn more. By the way, this was a university only for men.

Hsuan Tsang was not the only monk from another land to visit Nalanda. After him, *eleven* other Chinese and Korean travelers visited the university. One of these later travelers was a Chinese monk named I Tsing. Like Hsuan Tsang, he also wrote about his travels and experiences, and he also visited and stayed at Nalanda. I-Tsing tells us that more than 3,000 monks lived at Nalanda. He tells us that the monks who lived here had a very strict schedule, and that their daily activities were regulated by a water-clock.

The ruins of ancient Nalanda are close to a village called Bargaon in the state of Bihar. Nalanda is mentioned in ancient Buddhist and Jain literature as a place where the Buddha and Mahavira came and stayed very often. These texts suggest that Nalanda was already a prosperous and famous place in the sixth century B.C.. But the excavations at Nalanda did not reveal any remains earlier than the fifth century A.D.. How do we explain this? Probably there was a settlement of some kind at Nalanda from the sixth century B.C. onwards, but the famous monastery-cum-university was set up much later in about the fifth century A.D. An important clue is the fact Fa Hsien, the Chinese pilgrim who visited India in the early fifth century A.D. mentions the *place* but does not mention the *monastery*. Later kings such as Harsha of Kanauj and the Palas kings of Bengal and Bihar built buildings here and granted villages to the Nalanda monastery.

What did archaeologists find at the site of Nalanda? There was a row of Buddhist temples on one side and a row of monasteries where the monks lived on the other side, with an open space in between. There were a few other structures here and there as well. The remains of stairs show that some of the buildings were multi-storeyed — at least two storeys, maybe more. Many statues of the Buddha were found in the temples. The monasteries are all quite similar to each other in their design. All of them faced west, and the drains discharged the waste water and sewage in the east. The staircases were located in the south-west corner of the buildings. Many of the temples and monasteries were repaired, rebuilt and enlarged over the years.

The ruins at Nalanda tell us about the life of monks living in a large Buddhist monastery in ancient India. As you step into the entrance of the monasteries, on one side, just behind a small room there is a secret chamber. This was probably a store where valuable items and presents made to the monastery were kept. The monks lived in small rooms built all around a courtyard. The courtyard was an important place. This was where students would sit and listen to the teachers' lectures. The monks lived in small rooms with one or two beds. The



This tall, imposing building with its broad flight of stairs is one of the many Buddhist temples discovered at Nalanda.

beds were a simple brick platform next to the wall. Some of the monasteries had their own well for drinking water and ovens (*chulas*) where food was cooked. There was a larger room which was served as a temple.

Lots of beautiful Buddhist statues were found at Nalanda. Some were made of stucco (a kind of plaster), others of bronze, some of stone. Many inscriptions on stone, brick and copper plates were also found. These tell us about the people who made gifts to the monastery. Nalanda also seems to have had its own official seal. This had the name of the Nalanda monastery and over this was a wheel with a deer on both sides. This scene stands for the first sermon give by the Buddha in the deer park at Sarnath. The senior monks must have used this seal for official letters.

Since monks lived at Nalanda, various items that they used in their every-day life were found. There was pottery of different sizes, sometimes decorated with designs of animals and flowers. There were implements or various kinds, such as axes, sickles, tongs, chisels, knives and spades made of metals like iron and copper. There were lamps made of clay and metal. There were stone pestles and querns for grinding grain. Other items included big stone spoons for serving food, metal scissors, ink-pots made of clay and metal, and game pieces made of bone and ivory. Near one of the temples, archaeologists found the remains of a metal workshop. Looking at this and at the large number of bronze statues found at Nalanda, it seems that some of these statues were made at this place.

The Chinese pilgrim Hsuan Tsang had fond memories of his stay at Nalanda and seems to have made some good friends during his stay there. Many years after he got back to his home in China, he received a gift sent by a monk of Nalanda. It was a pair of clothes. Along with it came a message that the monks of Nalanda still remembered Hsuan Tsang often and sent him their good wishes.

MADAN-KAMDEV

In ancient times, Assam and its surrounding area was known as Pragjyotisha or Kamarupa. The mighty Brahmaputra river which flows through Assam was known as the Lauhitya. The river meant water, fertile soil and trade, so it is not surprising that many villages and towns sprang up on and near the banks of the Brahmaputra. But there were many people who lived in the hills as well.

There are many archaeological sites in the north-eastern states of India. Madan-Kamdev is one of the most important historical sites in Assam. It is located in Kamrup district, not far from Guwahati. There is a large, ruined temple here in which there was a sculpture of the god Shiva and the goddess Uma. This god and goddess pair are still worshipped by the people of the area but they call them "Madan-Kamdev." This is why the temple and the place has come to be known by this name.

Which are the oldest archaeological sites in Assam?

Many stone tools of the palaeolithic age have been found in different parts of the Khasi, Garo and Jaintia hills in the north-eastern states of India. Some of the oldest excavated sites in Assam are Sarutaru and Daojali Hading. Both of these are neolithic sites. Ground and polished stone tools and simple pottery was found here.

In 1977, a small area next to the Madan-Kamdev temple was excavated by archaeologists. Lots of stone sculptures and stone pieces that must have been

part of the temple were discovered. An interesting discovery were three detailed stone models of temples carved out of single pieces of stone. These models were about 1 metre high, and they must have been part of the upper storey of the temple structure. Pieces of the temple spire were also found. Why did the temple break into so many pieces? This seems to have happened because of an earthquake.

For many years, nobody knew that there was much more to be found at Madan-Kamdev. This is because the other ruins were hidden by the trees and bushes of the dense forest. Then, from 1981 onwards, there were more excavations at the site. Archaeologists carefully studied the hills, plains and streams in the area. As the thick jungle near the temple was cleared, they found the remains of more than a dozen temples, some made of stone, others of brick. All the temples were in a ruined state. Only their foundations and the lowermost sections remained, so it is difficult to imagine how they must have originally looked like. All of them were built in the 11th-12th centuries A.D.. Given the large number of temples at Madan-Kamdev, it is clear that this was an important

This stone lion found at Madan-Kamdev seems to be giving a powerful roar.

religious place in those times. And even in its broken condition, we can tell that the Madan-Kamdev temple was one of the most beautiful temples ever built in the Brahmaputra valley.

Archaeologists also found evidence of tanks for water storage and fortifications at the site. All this shows that Madan-Kamdev must have been an important town in ancient times. But we don't know much more about it than this!

There are many broken parts of stone temples, beautifully carved pieces of stone, statues, etc. that continue to be found at Madan-Kamdev. It is difficult to even guess how many of the precious remains have disappeared from the site over the years. In recent years a small museum has been built at the site so that the remains can be preserved for people to see. If we do not take care of our ancient sites, they will simply disappear. And once they disappear, they are lost forever.

There are many important sites that have been identified by archaeologists in Assam and the other states of the north-east. There are many more, however, that remain to be discovered, explored, and excavated.

HAMPI

Hampi is a small village on the banks of the Tungabhadra river in Karnataka. The kings of the Vijayanagara kingdom built a magnificent capital here in the fourteenth century. They named their capital "Vijayanagara" which means city of victory. But the city also had another name – Vidyanagara, after a religious man named Vidyaranya. The ruins of the ancient city of Vijayanagara are spread over an area of about 25 sq km, covering many villages. The main monuments, however, are located between the villages of Kamalapuram and Hampi.

The kingdom of Vijayanagara came up in the early fourteenth century. It was founded by two brothers named Harihara and Bukka, who set up an independent kingdom after challenging the might of the Delhi sultans who were busy building up their own empire in the north. The two brothers founded a dynasty known as the Sangama dynasty. Other dynasties that ruled from Vijayanagara were the Saluva and Tuluva dynasties. We have descriptions of the grandeur of this city in the writings of foreign travelers – Italians, Portuguese, Persians, and others — who visited it. In 1565, the king of Vijayanagara was defeated in a battle at Talikota, and that event led to the decline of this great city.

The kings of Vijayanagara had chosen the spot for their capital well. The city had a good supply of water in the Tungabhadra river which flowed through a rocky area to the north. In ancient times, the Tungabhadra was known as the Pampa. The green, fertile valley provided good land for farming. In fact, these advantages were recognized by much earlier people. Neolitithic stone tools and

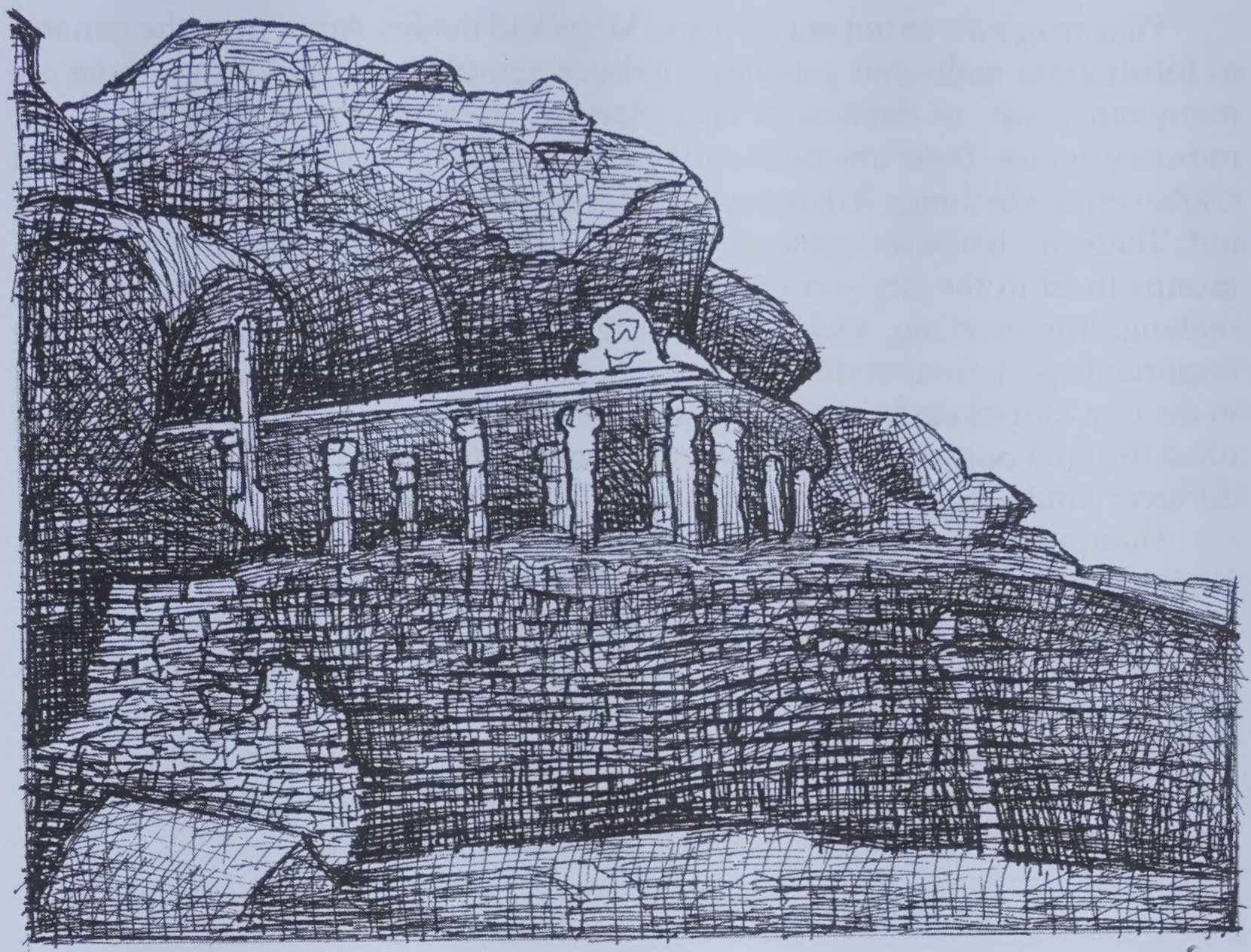
hand-made pottery have been found in the area around Hampi, and this proves that stone age people lived here. Rock inscriptions of the Mauryan emperor Ashoka have also been found nearby. This shows that this area was included in the empire of the Mauryan kings.

Vijayanagara is an exciting site which has aroused the interest of many archaeologists and historians from different parts of the world. Some archaeologists have concentrated on excavating parts of the site, and finding out what lies buried under the earth. Others have carefully explored and examined the ruins and artifacts found on the surface of the ground. Over the years, the area has been cleared carefully of shrubs and rocks, and steps have been taken to protect the many buildings, sculptures and inscriptions found at the site.

Vijayanagara was a large, sprawling city with different parts. To south of the river was the main temple area. South of this were the irrigated agricultural fields. To the south of this was the main city area. And south and west of *this* were a number of smaller settlements, suburbs that were linked to the main city. Most of the people lived in the main city area. Here, archaeologists found remains of buildings of different kinds including houses and temples, wells, pottery and lots of other artifacts. The main city area was protected by fortification walls with gateways, from which guards could keep careful watch. Within the city there was a palace area, where the king and his family lived. This was protected by its own wall, much of which today lies crumbled.

There were many temples, some big, some small, in the city of Vijayanagara. One of the biggest and most beautiful ones is the Virupaksha temple, dedicated to the god Shiva. Some of the temples have beautiful sculptures. The sculptures often show scenes about the gods and goddesses. But there are many other sculptures that show soldiers, dancers, animals, birds, acrobats, etc.. The inscriptions on temple walls tell us about different groups in society that helped in the building of the temples.

Although the buildings of the city are in ruins, we can identify the floors and parts of some buildings where the king and members of his court may have lived. Here, archaeologists found delicate Chinese pottery and many fine sculptures. One of the buildings nearby may have been used for public ceremonies and another may have been the king's audience hall. A beautiful stepped tank was found, with careful arrangements for the supply and exit of water. Some of the buildings have been identified as houses where the nobles lived.



The exquisite temples at Hampi blend in beautifully with the rugged, rocky landscape.

Do archaeologists always know what the buildings at a site were used for?

No, they aren't always sure. At Vijayanagara, for example, there are many buildings that have been understood in different ways. There is one building that has been described in different ways – as a palace, as the king's bedroom, or as a room where the king met his advisers. Another building with a tank in the center has also been interpreted in different ways – as the king's bathing area, the queen's bathing area or as a place where important festivals were held. A building near the elephants' stables has been differently interpreted as the treasury, a general office, a concert room and a guards' room! Another building that some scholars described as a mint where coins were made is now considered to be a part of the king's palace.

Vijayanagara was not only a city of kings and nobles. Apart from the remai of fortification walls and gateways, palaces, temples and sculptures, there a many other sorts of remains at Vijayanagara. There are the remains of simp ordinary homes. There are roads and bridges. There are workshops where skill craftsmen made things. There are quarries from which raw materials were du out. There are irrigation systems such as canals, wells and tanks. Many soci groups lived in the city – craftsmen, traders, soldiers, labourers, etc.. Potter making, iron-working, sculpture-making and lime-making were some of th important specialized crafts of the city. Some people were settled permanent in the city. Others such as pilgrims who came to visit the temples, farmers wh tilled the land outside the city, and busy merchants buying and selling goods different kinds, may have moved in and out of the city.

Hampi or Vijayanagara has been recognized by the UNESCO (Unite Nations Educational, Scientific and Cultural Organization) as a World Heritag Site. This means that it is considered one of the most important and preciou sites in the world. Archaeologists are still studying the remains of Hampi an the surrounding area. Maps, photographs and drawings of the remains hav been made and continue to be made. Archaeologists are trying to find out mor about life in the city of Vijayanagara and about the connections betwee Vijayanagara and the other cities and villages of south India.

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